THE ELEMENTS OF UNIVERSAL ERUDITION.

CONTAINING AN

ANALYTICAL ABRIDGMENT

OF THE

SCIENCES, POLITE ARTS,

AND

BELLES LETTRES.

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Indocti discant, & ament meminisse periti.

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By W. HOOPER, M.D.

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MDCCLXXI.

TO

HIS ROYAL HIGHNESS,

GEORGE,

PRINCE OF WALES.

THESE

ELEMENTS

OF

UNIVERSAL ERUDITION

ARE

HUMBLY INSCRIBED.

TO THE

STUDIOUS YOUTH.

TO oblige the world, is, they say, to oblige no one person in the world. Every author, though his pen be guided by interest, by party, or ambition, may make that pretension, and dedicate his book to Augustus or Mecænas. With regard to myself, these sublime projects are now very far from engaging my attention. After labouring for many years amidst the great world, I am convinced that all is vanity; and that at a certain period of life, the greatest happiness which a rational man can aspire after, consists in living for himself, for a few real friends, for the muses, and for the comforts of retirement.

Deus nobis hæc otia fecit.

A charming retreat has provided me with this felicity upon earth: but, from my solitude, I do not rail at the human race. I have not learned in the society of the first of mankind to hate them, nor have I found that they consist of nothing but vices and imperfections: on the contrary, if I have any merit, it is to their virtues, their learning and politeness, that I owe it. In my rural abode I still admire, in respectful silence, sagacious

monarchs on the throne: princes ſprung from an illuſtrious race, ſignalizing themſelves as well by a dignity of ſoul as by heroic deeds: ſtateſmen endowed with penetration and integrity: generals accompliſhed in valour, in prudence and humanity. Notwithſtanding the clamours of ſome gloomy theologians, and ſplenetic philoſophers, the eighteenth century, more fruitful in events than all that have preceded, will be reſplendent in hiſtory, by ſuavity of manners, by important diſcoveries, by the completion of former inventions, by the encouragement ſovereigns have given to the arts and ſciences, and by that moſt happy ſucceſs with which they have been cultivated. Can I then be condemned, if, to render my enjoyments complete, I endeavour to promote their moſt uſeful labours, their glorious deſigns, by devoting to the like purpoſes ſome portions of my rural leiſure? Can I be condemned, when placed between two periods, one of which has given me life, and the other will give me death, if I try to fill the interval by an occupation that will be uſeful to the riſing generation, who are to appear upon the ſtage of the world after we have left it? If, not content with coming into the world, exiſting and dying, I ſeek to leave behind me ſome traces of my exiſtence; to acquire a poſſeſſion of intrinſic value, and one that to my laſt moments will never forſake me?

Ye Studious Youth! do not repay me with ingratitude; do not accuſe me of preſumption, nor imagine that I regard this work as a maſterpiece of the human mind, that makes pretenſions to immortality. No, my utmoſt ambition is to provide you with a uſeful work. If you ſhall interleave theſe ſheets with blank paper; if you ſhall read them often, and mark down all the obſervations you will make on each ſubject during the courſe of your ſtudies, you can ſcarce poſſibly avoid acquiring a valuable portion of erudition.

Ye Learned Veterans! ſometimes vouchſafe to peruſe this little work, which will recall the ſciences to your remembrance.

remembrance. It is you alone that I allow, it is you that I entreat, to correct my errors and inadvertencies, and to ſupply what, through ignorance or forgetfulneſs, I have omitted. The plan I propoſed to myſelf was too vaſt to be executed by one man, in a rural retreat, without the aſſiſtance of a very comprehenſive library, or of ſome learned friends. When I firſt projected this abridgment, I could not conceive the number and variety of the materials to be ſo abundant. In the courſe of my labours I was like thoſe who examine the ſeveral apartments of ſome grand magazine, and are aſtoniſhed at the riches they contain. When I had finiſhed my work, by ranging each article in its proper place, I found there was every where ſomething ſtill wanting: but in correcting or improving this work, do not diſcourage me by ungenerous cenſures. Remember that judicious reflection of the duke of Buckingham,

Humanum eſt neſcire et errare,

and do not forget that a malignant, unlimited criticiſm is conſtantly mean, contemptible, and unworthy of an honeſt man.

I return to you, Young Men, whom the Muſes ſtill invite to their temple, and to whom it is my wiſh to point out the path that will lead you thither. It is proper that you ſhould be acquainted with the whole ſyſtem of univerſal erudition; but as nature does not often produce a Bacon or a Leibnitz, as an univerſal genius is but rarely found among men, follow my advice; make choice from among the ſciences that here preſent themſelves to you, of ſome one or more, and there exert every effort to excel; for the powers of the human mind are ſtrengthened or debilitated in proportion as they are concentered or extended.

May Providence further my intentions! for they are upright. We ſow little to reap much. I here caſt upon earth a ſingle handful of the grain of ſcience: may you,

you, by the bleſſing of heaven, reap an abundant harveſt! If my days and my leiſure ſhall be prolonged, I ſhall employ the remainder of my life in correcting and augmenting this work: perhaps I may ſay, with Apelles,

Nulla dies ſine linea.

But certainly I ſhall draw no line that will not center in you——for you are dear to my heart.

*** As the deſign of this work is inſtruction, not amuſement, the Tranſlator has every where followed the moſt common orthography. See Note, Vol. II. p. 89.

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INTRODUCTION,

CONTAINING

REFLEXIONS ON ERUDITION IN GENERAL.

I. IN the moſt extenſive ſenſe, we underſtand by the word ERUDITION, the knowledge of every thing within the comprehenſion of our faculties This definition, though vague, is nevertheleſs ſtrictly juſt; for the more a man's knowledge is enlarged, the more erudition he has: the Holy Scripture itſelf, to give us an idea of the knowledge of Solomon, ſays, that he underſtood all things, from the cedar to the hyſſop: all uſeful arts, all trades, all ſciences, even thoſe of a leſs important nature, are thefore compriſed under the general idea of Erudition.

II It is not our intention, however, to range in ſo vaſt a field: by the term Erudition, in the courſe of this work, we underſtand, *an aſſemblage of all the ſciences and liberal arts*; of which we propoſe

to give a conciſe, and diſtinct analyſis The multitude of ſubjects that here preſent themſelves, will afford us, however, the more ample employment, as it is neceſſary, in order to give a juſt abridgment of any ſcience, to conſider it in its utmoſt latitude.

III. The reſpectable names of thoſe who have preceded us in this race, are not unknown to us; but far from being diſcouraged thereby, we find a ſtrong emulation to reach that goal, to which theſe illuſtrious rivals preſs. It is the part of the public to crown our common efforts by its approbation: we aſpire to its preference, only by our zeal and the utility of our enterpriſe. We well remember to have read excellent treatiſes, that point out the path which leads to the attainment of the belles lettres, or of ſome particular ſciences; but we know of no ſyſtem that comprehends the whole, and that preſents them in a natural order, from one point of view.

IV. It is eaſy to conceive that the analyſis of each ſcience muſt be very ſhort; it has coſt us ſome pains, however, thus to concenter our ideas; the diffuſion of them would have been attended with leſs difficulty, and more brilliancy: but it is not our intention to ſhine, but inſtruct; and in order to inſtruct to good purpoſe, brevity appears to be quite neceſſary. Our memory has its bounds, and is far from being capapable of containing a very voluminous quantity of matter; and for this reaſon we have not preſumed to interſperſe a great number of reflections in this work; nor to decorate it with the allurements of ſtyle; it requires a hand more dextrous than ours, to diveſt Venus of her zone, and with it to adorn Minerva. We ſhall think ourſelves very happy, if we are able to preſent our readers with ſome of the roſes of ſcience, eſpecially of abſtract ſcience, from amidſt thoſe thorns with which they are ſurrounded.

V. The

V. The first difficulty that we encountered was, in the arrangement of our system. To reduce the chaos of universal erudition, it was indispensably necessary to follow some determinate order in the delineation, and to dispose each branch of human knowledge in that class to which it naturally belongs: this method has been attended with some difficulty among the learned: some of them divide the sciences into *necessary, useful, agreeable, and frivolous*; under the idea of necessary they comprise, for example, divinity, physic, and law: under that of useful, history, the several parts of philosophy, and the mathematics: by the agreeable sciences they mean, poetry, eloquence, and the polite arts in general: and lastly by the frivolous, astrology, alchymy, chiromancy, &c. Now though this division appears natural enough, yet we cannot determine to follow it, as we are not fully satisfied with it: for a science that appears frivolous to one, may be agreeable, or useful, or even necessary to another: the degrees of utility in human knowledge are not to all men equally distinguishable; they are a sort of shades that run into, and are confounded with each other Moreover, every one esteems his favourite science as the most agreeable and most useful; and it is not our intention to set ourselves up as dictators of Parnassus, to decide among the contending parties; nor would we give occasion to disputes about precedency.

VI. Others have divided general erudition into three parts, comprehending, in the first, the languages and the liberal arts; in the second, the preparatory sciences, such as philosophy, history, &c. and in the third, what they call the superior sciences, those which are taught by public professors in universities, as divinity, law, and physic. This arrangement we find still less eligible, as its divisions are by no means clear and determinate.

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VII. Others again have divided the ſciences according to the different degrees of certainty of which they imagine them capable. They ſuppoſe that in ſciences in general, there are three degrees of certainty; and the firſt they call *mathematic* or demonſtrative certainty; the ſecond, *philoſophic* certainty, whoſe evidence is confined by the limits of the human underſtanding; and the third *hiſtoric* certainty, which is founded on authentic teſtimonies, and reports of known veracity. Theſe three degrees of certitude are very juſt, and ought to be carefully attended to in the examen that we make of each ſcience: notwithſtanding we have not thought it expedient to obſerve this diviſion in the arrangement of our ſyſtem, becauſe it might overthrow that order already eſtabliſhed in the republic of letters. It is worthy of obſervation, that the preparatory ſciences are capable of a greatter degree of evidence, than even thoſe which they call the ſuperior ſciences; for example, the mathematics, natural philoſophy, and anatomy, are founded on demonſtration: theſe lead to the ſtudy of phyſic, which is ſurrounded by obſcurity, and of which, conſequently, the certainty is very problematical. Morality, the law of nature, and ſome other ſciences, are preparatory to juriſprudence: the former are founded on proofs drawn from philoſophical reaſoning, and acquire thereby a great degree of evidence; the principles of the latter are founded merely on the caprice of legiſlators, whoſe decrees are at continual contradiction with each other, and conſequently we can ſcarce allow theſe an hiſtoric certitude. It is the ſame with regard to theology, which is founded on revelation, and this on faith and the credibility of hiſtory. The doctrines or theories of divinity are at variance, moreover among themſelves, in the different religions or ſects that divide, or have divided the world: and each of theſe pretends to poſſeſs alone the truth. In a word, the guides

that

that conduct to the ſanctuary of truth, are more to be depended on than the ſanctuary itſelf: if therefore, we ſhould follow this diviſion, we ſhould be obliged to diveſt certain branches of learning of that rank which they have hitherto held, and we are unwilling to degrade any one of the ſciences, being convinced of the reſpect that is due to all of them, from their intrinſic merit, and utility to mankind.

VIII. The diviſion of erudition into *ſciences and belles lettres* is not intelligible in all languages; even the French authors themſelves are not agreed on the ſciences that are to be comprehended under the term of belles lettres: ſome of them thereby mean a knowledge of the poets and orators; others maintain that the true belles lettres are, geometry, natural philoſophy, and the other eſſential parts of ſcience. M. Rollin, in his method of ſtudying them, has made a ſtrange jumble; he there introduces every ſubject that the human mind can conceive or acquire: hiſtory, ſacred and profane; with a long diſſertation on a taſte for ſolid glory and true grandeur; and many other matters of like nature, which ſeem quite foreign to the purpoſe; this, therefore, is not the ſyſtem to be followed; we muſt preſent our readers with ideas more diſtinct, and opinions more evident, than any of theſe.

IX. When we reflect on the nature of the human mind, we think we perceive three diſtinct faculties, independent of ſenſation and the will, which have no concern in this buſineſs: theſe faculties are, *the underſtanding*, *the imagination*, and *the memory*: the underſtanding examines, compares, judges, and reflects; the imagination creates, improves, and produces; the memory retains and reſtores what it has retained. Every ſcience, every art, ſeems to appertain to one or other of thoſe three faculties: we have therefore ranged them into three claſſes, and divided this treatiſe into three books:

The firſt of which treats of, *thoſe ſciences that employ the underſtanding*;
The ſecond, *thoſe that are derived from the imagination*;
And the third, *thoſe that exerciſe the memory.*

X. We have aſſigned a chapter to each particular ſcience: and the better to eſtabliſh a due order in this work, and to render it more proper to make a ſtrong impreſſion on the memory, we have divided each chapter into paragraphs, allotting to the principal ſubject of each ſcience, or doctrine, a particular paragraph: the marginal numbers will ſerve, moreover, to find and to retain the different articles with facility: ſuch is the method that appears to us the moſt eligible in works of a ſcientific nature, and that treat of ſo great a diverſity of ſubjects.

XI. The aſſemblage of divers particular ſciences forms, ſometimes, a ſuperior or general ſcience: theology, for example, is compoſed of ſeveral doctrines, of which ſome are derived from the underſtanding, ſome from the imagination, and others from the memory. As every particular ſcience will be found ranged under that claſs to which it naturally belongs, we ſhall content ourſelves with only pointing out, in the chapter on theology, thoſe ſciences of which it is compoſed; and they who are deſirous of making it their ſtudy, will find each particular ſcience in that diviſion to which it properly appertains; natural religion among the ſciences of philoſophy; oratory among thoſe of the imagination; ſacred hiſtory in that part which treats of the ſciences of memory; and ſo of the reſt.

XII. It will not be imagined, we preſume, that it is here ſuppoſed, each ſcience, each art, does not employ, in ſome reſpects, all the three faculties of the mind; and that to be a good orator, for example, requires not the exercise of the underſtanding, and the memory, as well as of the imagination:

imagination: now, though we readily admit of the contrary, we may reaſonably aſſert at the ſame time, that imagination is the firſt principle of eloquence, though the memory offers it images, in the choice of which the judgment determines: theſe two faculties do therefore, in fact, concur, but it is only as acceſſaries; and for this reaſon we have ranged eloquence, and its dependent ſciences, under the claſs of imagination.

XIII. To ſucceed in any ſcience whatever, a certain taſte is requiſite, without which, with all the learning in the world, we become dry, pedantic, and diſagreeable: this taſte is, in fact, the gift of nature, and conſiſts in a happy diſcernment, in a ſenſation ſubtle and delicate, in relations that are exact, in proportions that are juſt, and attributes that are agreeable to each object. Every one has not received this gift from Heaven; but every one who cultivates the ſciences, ſhould act as if he had ſome portion of it, or as if he could obtain it by force of reflection and application; for it is very certain, that a taſte may be formed, and that which we already poſſeſs, improved.

XIV. We ſhall ſay only a few words concerning the title of this work: it has occaſioned us ſome heſitation. We would have given it the title of *The Univerſal ſcience*, if that expreſſion did not ſeem to ſavour of vanity: if we had made uſe of the word *Encyclopedia*, it might have been thought that we intended to encroach on the province of very reſpectable authors, or at leaſt to tread in their footſteps: truth, however, has ſerved us for our guide, and we think that by calling it, *The firſt draught of Univerſal Erudition*, we expreſs its contents without oſtentation, and at leaſt, convey the idea of what is intended by this work. Whenever we have entered a library, and have beheld the ſhelves bending under the weight of ſo many thouſands of volumes; when we conſider the life of a man of letters, and reflect that he has read

to the amount of many hundred folios, we have ſaid to ourſelves, what if ſome dozen men of true learning were to aſſociate with a deſign to extend the idea of this little work, to carry it, for example, to the ſize of twelve volumes in quarto, and there to treat of all the ſciences in a far greater detail, would not the ſtudy of ſuch a wo k be ſufficient to form a learned man? and would it not ſave the ſtudious youth much anxiety, labour, fruitleſs ſtudy and expence? What we here offer is only the outlines, the ſimple idea, of ſuch a work.

XV. Permit us to make yet one more remark, as it appears eſſential. They who are endowed with a great genius, have ſcarce any need of a ſyſtem, nor indeed of inſtruction, to attain the knowledge of the ſciences; all that is neceſſary to them, is the knowledge of the languages, and a ſight that can bear a great deal of reading. The reſt they will digeſt in their own minds, and will conſtantly go before thoſe, who, to uſe the expreſſion, learn the ſciences by heart: the former acquire their knowledgee by the judgment, the latter by the memory; thoſe accuſtom themſelves to make their own reflections, theſe only think after their maſters or profeſſors: the ſciences wait upon the one in their cloſets, the others go to ſeek them in the ſchools and univerſities, and do not always find them even there. But men of clear underſtanding are rare, and they of great genius much rarer. In the mean time, every one muſt live, and the men of letters make a large part of ſociety. Several ſciences are therefore become trades or profeſſions: it is for the uſe of thoſe who devote themſelves to ſtudy, that theories and ſyſtems are wrote; it is to guide them in their courſe, that works like this are compoſed; they, at leaſt, will have ſome obligation to their authors; and, perhaps, even the men of genius will find, that here and there, we have ſpared them ſome labour.

XVI. We

XVI. We have only one word to add, by way of concluſion: this work might have been much more extended, and have carried an air of much more learning, if it had been thought proper to garniſh it with the names of the moſt celebrated authors only, who have wrote on each ſubject: but theſe ſort of quotations make a work grow old before its time. The writing of books goes on perpetually, and according to Solomon, will to the end of the world. The authors of the day, that are moſt read and regarded, loſe inſenſibly their vogue, and are ſucceeded by new writers, who following their footſteps, profiting by their diſcoveries, and improving on their ideas, approach ſtill nearer to perfection. There are however, in moſt ſciences, ſome claſſic authors, who, in all probability, will continue to hold a diſtinguiſhed rank as long as their language ſhall laſt; and of theſe we have thought ourſelves obliged to make mention in the chapter that treats of the knowledge of good books: but to ſtrew a work over with quotations from modern authors, would be to make it liable to the ſame inconvenience that attends a portrait painted in the faſhion of the day: the mode paſſeth away, the picture becomes antiquated in conſequence of its dreſs; and, however valuable it may be in other reſpects, is thrown among the lumber. As we would not that this work ſhould undergo a like fate, we have uſed our beſt endeavours, that it may not depend on a momentary merit, and a tranſient eſtimation.

XVII. It is yet neceſſary for me to aſk, Have I omitted nothing? *Have I not committed frequent miſtakes in the courſe of this work?* Yes, doubtleſs. Some omiſſions I have made by deſign, and ſome becauſe the limits of the human underſtanding, and memory, are not extended by the Creator to infinity: and with regard to involuntary errors, you will pleaſe to obſerve, that all who have written from the beginning of the world to this day, except the ſacred writers, have ſometimes erred; even when

they have wrote but on one ſubject only. Alas! what wonder! that I, who have dared to explore the whole body of ſcience, ſhould alſo have ſometimes erred. I am fallible, and have not the vanity to pretend to infallibility. Reader, if you are more perfect in theſe matters, I rejoice in your ſuperior good fortune with all my heart; *nec mihi, ſi aliter ſentias, moleſtum.*

BOOK THE FIRST.

ON

THOSE SCIENCES WHICH RELATE TO THE UNDERSTANDING.

CHAP. I.

ON THEOLOGY.

I. TO know God, and to render him a reasonable service, are the two objects of theology. We know but little of the nature of bodies; we discover some of their properties, as motion, figure, colours, &c. but of their essence we are ignorant: we know still much less of the soul; but of the essence or nature of God, we know nothing: it is the prerogative of the Supreme Being alone to comprehend his own essence: all the efforts that we can make to attain that knowledge, are arrogant and ineffectual; it is foreign to the nature of a limited spirit: but our destiny is that of a man, and our desires are those of a God. In a word, man appears to be formed to adore, but not to comprehend, the Supreme Being.

II. We may say, however, with Virgil, *Jovis omnia plena*; God manifests his existence, not only to the internal sensations of our minds, but in every object that surrounds us in the whole frame of nature; and if we cannot comprehend the Supreme Being by our senses, we may discover his attributes by our reason, almost as clearly as we distinguish the properties of matter, and many other objects: and this knowledge is sufficient for us.

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The end of every other ſcience is ſome temporal happineſs; theology alone propoſes an eternal felicity; its object therefore differs from that of all other ſciences, as the age of threeſcore and ten differs from eternity. We cannot wonder therefore, that all the inhabitants of the earth, from the time of the creation, have made it their principal ſtudy, and have exerted all their abilities in the cultivation of it; we ought much rather to be aſtoniſhed that it does not yet more ſtrongly engage the attention of mankind, and that while they labour ſo aſſiduouſly to acquire thoſe ſciences, whoſe utility extends to ſo ſhort a ſpace of time, they ſhould ſo frequently neglect that object which can ſecure their felicity in a future, certain, and eternal exiſtence.

III. From the firſt knowledge that we have of the world, that is to ſay, for about five thouſand years paſt, men have blindly ſearched after the idea of the true God; and by the weakneſs of their diſcernment, they have fallen into a thouſand errors. Paganiſm at firſt covered the whole earth, except that family alone which became the ſtock of the Jewiſh people: this paganiſm among different nations had different mixtures of idolatry. Moſes firſt made known, to the Hebrews, the true God, and preſcribed them his worſhip: his religion however, was not adopted by any other people, not even by their neighbours. Jeſus Chriſt appeared upon the earth, aboliſhed a part of the Judaic law, reformed the religion of Moſes, taught his divine doctrines, and offered himſelf as a ſacrifice for the ſalvation of mankind. His goſpel made a happy progreſs over all Europe, that is, over the then known part of the earth. Sometime after, Mahomet aroſe in the Eaſt, and preached a religion that he had compounded of the Jewiſh and Chriſtian, and of his own ideas. Laſtly, came Luther and Calvin, who reformed the errors which, according to them, had been introduced into Chriſtianity under the reigns of the popes; and gave

gave the idea of what is called the Proteſtant Religion. Confucius had taught the Chineſe, and Zoroaſter the Indians, religions drawn partly from philoſophy, and partly from paganiſm; but the extent of theſe was very confined. All theſe religions, and their different ſects, have had their theology, their prieſts, their ceremonies, their triumphs, and even their martyrs.

IV. We ſhall not ſpeak here of religions that are extinct, or that yet exiſt, but at a diſtance far from us; we ſhall treat only of the Chriſtian theology, which teaches us to know God, by revelation and by the light of reaſon; ſo far as it is poſſible for the weakneſs of the human mind to comprehend that inſcrutable Being. The knowledge of the true God is indeed of little utility to man, unleſs he can ſuppoſe that there is ſome connexion or relation between that ſupreme Being and himſelf. Now it is from theſe connexions or relations that are derived the neceſſity of the knowledge of the true God, and of the true manner in which he is to be worſhipped: and this it is that forms the Chriſtian theology, of which we ſhall now give the analyſis

V. To aſcend by a chain of reaſoning from things viſible to things inviſible, from palpable to impalpable, from terreſtrial to celeſtial, from the creature even up to the Creator, is the buſineſs of theology: it is not ſurpriſing therefore, that the union of many doctrines is neceſſary, completely to form ſuch a ſcience. To underſtand, and properly to interpret the ſcriptures or revelation, demands not leſs ſagacity than aſſiduity. The gift of perſuaſion is alſo eſſential to the miniſters of the goſpel: and laſtly, the civil government has committed to their care certain functions of ſociety, which relate, or ſeem to relate, either to the doctrines or morality of the goſpel. They aſſemble, for example, in bodies to form conſiſtories; they judge in matrimonial caſes; they carry conſolation and hope to the ſouls of the ſick; they

they prepare for death thoſe criminals which juſtice ſacrifices to public ſafety; they take upon themſelves the charge of *Ephori*, with the inſpection of ſome pious foundations; they diſtribute alms, they adminiſter the ſacraments, &c.

VI. To diſcharge fully ſo many duties, the theologian has need, 1. Of ſeveral preparatory ſtudies; 2. Of ſome theoretic ſciences; and 3. Of many doctrines which have for their object his miniſterial office. The firſt are,

1. The languages; and among theſe,
   (a) His native language, in which he is to preach and exerciſe his miniſtry, and with which he ought to be perfectly acquainted.
   (b) The Latin language, which is the language of the learned world in general.
   (c) The Greek language, in order to underſtand the new Teſtament.
   (d) The Hebrew language, of which the Talmudian and Rabbinical idioms are a part.
   (e) The Arabic language.
   (f) The Syriac language.
   (g) The French language, And
   (h) The Engliſh language. The two latter of which now appear neceſſary to every man of letters, and particularly to a theologian, on account of the excellent works which are wrote in thoſe languages.
2. The principal parts of philoſophy, as
   (a) Logic.
   (b) Metaphyſics.
   (c) Moral philoſophy.
3. Rhetoric and eloquence, or the art of ſpeaking correctly, of writing with elegance and of perſuaſion.

To which may be added,

4. The elements of Chronology, and univerſal Hiſtory.
5. The ſtudy of the Jewiſh antiquities.

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He who would devote himſelf to the important employment of a theologian, and has the noble ambition to excel in it, ſhould early impreſs on his mind theſe truths: that the years which are paſſed at a univerſity are few; that they run rapidly away; that they are entirely engroſſed by the theoretic ſciences; and that he who does not carry with him to the univerſity a fund of knowledge in the preparatory parts of learning, commonly brings very little away, when his age or his parents oblige him to quit it. As thoſe preparatory ſciences which we have here mentioned, relate either to the underſtanding, the imagination, or the memory, the reader will find the analyſis of each of them in that claſs, where, by the ſyſtem we have adopted, they ought to be placed.

VII. The theoretic ſciences of a theologian are,

1. The Dogmatic, or the theory of theology, which ſome Latin authors name alſo *thetica* or *ſyſtmatica*.
2. The Exegeſis, or the ſcience of attaining the true ſenſe of the holy ſcriptures.
3. The Hermeneutic, or the art of interpreting and explaining the ſcriptures to others; this differs in general but little from the exegeſis, and in ſome reſpects is quite the ſame.
4. Polemic theology, or controverſy.
5. Natural theology.
6. Moral theology.
7. Sacred criticiſm.
8. The hiſtory of the Church, under the Old and New Teſtament, which I place here among the theoretic ſciences, becauſe it is neceſſary that the ſtudent be acquainted with the fundamental principles of theology, before he can be able to form a ſound judgment of the errors and hereſies that have crept into the church, and which form part of the chain of its hiſtory.

These are the doctrines which we shall here explain, one after the other, in their natural order; referring, always, natural theology to the philosophical sciences; and sacred history to those which relate to the memory

VIII. The practical sciences of a theologian are,

1. Pastoral theology, which is divided into,
   (a) Homiletic.
   (b) Cathechetic.
   (c) Casuistic.
2. Consistorial theology, which comprehends
   (d) The Canon law.

3 The prudential exercise of the different functions of the ministry.

We do not here particularly name the *patristic theology* (theologia patrum seu patristica) because all Christian communions are not agreed in their opinions concerning the degree of authenticity and infallibility that is to be attributed to these ancient fathers of the Church. The Protestants believe, that these primitive theologians were liable to error in their sentiments as well as those of our days; and in all probability, that they were less skilful, less learned, less clear, and less accustomed to close reasoning, than the latter, as philosophy was then more imperfect. But as we find, in the writings of these fathers, many elucidations of the doctrine of the primitive apostles, and many irrefragable testimonies of the authenticity of divers remarkable events, which serve to establish the truth of Christianity; and as we there see, moreover the origin of errors, of arbitrary ceremonies, and of many doctrines that have been introduced into the Christian Church, the reading, and the study of these fathers cannot but be of great utility to the theologian. To a virtuous citizen, who unites such various sciences, and employs them in pointing out, to his fellow citizens, the path that leads to temporal and eternal felicity; in a word, to a wise theologian, what veneration is not due?

CHAP.

CHAP. II.

Of the Dogmatic.

I. UNDER the general term of dogmatic, we comprehend that part, which the different writers on theology have called, ſometimes theoretic, ſometimes ſyſtematic, and ſometimes thetic theology, &c. The term dogmatic appears to us the moſt general, and the moſt juſt, to expreſs the ſubject that we intend, as it comprehends *an entire ſyſtem of all the dogmas or tenets that each religion profeſſes*; whether it teach theſe dogmas by the way of theſis, as articles of faith; by public lecture; by catechiſing; or any other manner whatever.

II. Every poſitive religion muſt, naturally, have a ſyſtem of certain points of doctrine to propoſe to its followers, otherwiſe each one would form a particular ſyſtem according to his own fancy; there would be as many different religions, as there are individuals on the earth, and each ſociety would conſiſt of a confuſed maſs of fantaſtic opinions; as the different modes of thinking, and the different degrees of diſcernment, are varied and compounded by mankind to infinity; but truth, on the contrary, is uniform and invariable. If therefore any doubt ſhould ariſe in the mind of any one, concerning ſome tenet of the religion he profeſſes; or, if he ſhould entertain any particular opinion relative to it, he ought not to profeſs it publicly, and to lead other members of ſociety into error; but he ſhould inform himſelf, either by reading, or by conſulting the able miniſters of that religion, concerning the motives that induced the church to eſtabliſh that doctrine of which he entertains ſcruples; and if he be not convinced by the proofs that are offered him, ſtill to obſerve ſilence on that head.

III. The Chriſtian religion is as compound in its dogmas, as it is ſimple in its moral principle. It includes, 1. The dogmas founded on the lights of reaſon:

reaſon: 2 Thoſe drawn from the old teſtament, and the law of Moſes: 3. Thoſe taken from the New Teſtament, and the doctrine of Jeſus Chriſt: 4. Thoſe that the fathers of the church have drawn from the holy ſcriptures: 5. Thoſe that the church, under the New Teſtament, has preſcribed to Chriſtians, by oecumenical and other councils, aſſembled in different ages: 6. The dogmas that the popes, in quality of heads of the church, have eſtabliſhed by their bulls: and to theſe muſt be added on the part of the proteſtants: 7. The dogmas that the reformers, eſpecially Luther and Calvin, have taught: 8. The deciſions of ſynods; and laſtly, the tenets that are maintained by the different ſects, as Socinians, Anabaptiſts, Quakers, &c. Each of theſe particular religions, or ſects, pretend to ſupport their dogmas, both by reaſon and revelation: we do not here offer a work of controverſy, and are very far from attempting to determine on which ſide truth and reaſon are to be found.

IV. Our zeal, however, for the Chriſtian religion in general, which we regard as perfectly divine, and as the only religion adapted to promote the happineſs of mankind in this world, and to ſecure it in the next, and the deſire we have, that it may endure to the end of time, compels us to make, in this place, one important reflection; which is, that ſimplicity is ever an eſſential attribute of perfection, as complexity is of imperfection. Now, it cannot be denied, without doing violence to truth, that among the different dogmas, of which we have been ſpeaking, there are ſeveral that ſeem to be founded on ſpeculations very abſtruſe, on ſubtilities very intricate, and on interpretations very ambiguous. God certainly never intended that all mankind ſhould be theologians; he has not given them his divine word to be the cauſe of diſcord among men, nor that they ſhould paſs their whole lives in a painful ſearch after *objects of belief*, and *articles of faith*, and that they ſhould forego in that purſuit, the neceſſary offices of life, and their duties

ties as citizens The dogmas then, eſſentially neceſſary to the welfare of mankind, ought to conſiſt of a ſmall number, and to bear the marks of ſimplicity and perſpicuity; without which they muſt be imperfect, and conſequently the work of man. Our intention, in making this remark, is, to extend our voice, if it be poſſible, even to poſterity, whom we would conjure, not to injure our religion, ſo holy and ſo admirable, by a multiplicity of dogmas. It is neceſſary, however, that the divine, who makes it his ſtudy and his profeſſion, ſhould be thoroughly acquainted with the theory of this ſcience, in order that he may be able to inſtruct the ſincere Chriſtian, and to explain the nature of each particular dogma, as well as the ſolidity of its proofs: and to this it is, that the ſtudy of the dogmatic leads; of which we ſhall now continue the analyſis.

V. The dogmatic is then nothing but *a ſuccinct expoſition of all the dogmas of the Chriſtian religion in a natural and philoſophical order*. By the word philoſophic, we don't here preciſely mean the method of mathematicians, in the manner the late M. Wolff has applied it to philoſophy; every ſubject is not capable of a demonſtration ſo exact and rigid; but a regular order is required in the arrangement of the general ſyſtem, and a connexion is to be preſerved in the ſeveral matters that forms it: the definitions ſhould be juſt; the diviſions exact; the arguments ſolid; the proofs clear; the citations concluſive; the examples ſtriking; and, in a word, every thing ſhould be adduced that appertains to ſo important a diſcipline.

It is very eſſential, moreover, in the dogmatic, at the beginning of each theſis, to explain the ſeveral terms that are peculiar to it, and that uſe has eſtabliſhed in treating of theology; to draw from each definition certain axioms, and from thence to form propoſitions, and to illuſtrate them by ſcholia, and ſolid reaſoning. Laſtly, we ſhould not neglect, in ſuch a ſyſtem, to make uſe of the expreſſions uſed

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in the ſymbolic books that have been received by the whole Chriſtian church, and which cannot be rejected or altered, without cauſing a confuſion in our ideas, and in the general ſyſtem of the Chriſtian religion. But before we make the leaſt advance in the ſtudy of Chriſtian theology, it is indiſpenſably neceſſary to examine the proofs by which the truth, the authenticity and the divinity of the ſacred and canonical books are eſtabliſhed; for this is the foundation of all the dogmas, and the axis on which its whole doctrine turns.

VI. The ſyſtematic part of the Chriſtian religion, among the great number of its dogmas, or theſes, has *three principal*, from which all the reſt are derived, and which form the baſis of its whole doctrine:

1. The exiſtence of one God in three perſons.
2. The neceſſity of a Mediator or Redeemer.
3. The real appearance of the Mediator or Meſſiah on the earth.

Whoever writes, profeſſes, or teaches the dogmatic, ſhould be, above all things, careful, well to eſtabliſh theſe important truths; to evince them by the ſtrongeſt and moſt evident proofs; drawn partly from the lights of reaſon, and partly from revelation: and then he will ſee, with what facility all other theſes flow from, and how eaſy it will be to prove them by, theſe.

VII. The infinite variety that is found among mankind in their manner of thinking, and in their method of treating ſubjects: the frequent changes that have happened in the exterior form of philoſophy, and in the method of treating it; the oppoſitions that have been raiſed at all times, againſt divers doctrines of the Chriſtian religion; all theſe have produced, among theologians, different ſyſtems of the dogmatic. Sometimes they have combined poſitive theology with morality, and have formed a ſyſtem that they call *theologia theoretico-practica*, or *theologia thetico-moralis*, &c. ſometimes they have refuted the arguments that others oppoſe

to

to certain theſes, and from thence has aroſe a ſyſtem that they call *theologia thetico*, or *dogmatico*, or *poſitivo-polemica*; ſometimes they have joined to natural theology, that of revelation; and have formed a dogmatic, called *philoſophico theologica*; and ſo of the reſt. But, beſide that theſe diſtinctions and denominations are in themſelves pedantic, it is at all times more eligible, in every ſcience, to avoid confounding with each other the different branches of which it conſiſts. The different dogmas, morality, philoſophy, and controverſy, are ſeparate articles; and when each of theſe parts of theology are ſeparately treated, they are diſpoſed with more order in the mind, and a greater light is diffuſed over their ſeveral ſubjects.

VIII. It appears, moreover, from the ſimple enumeration that we have made, in the third ſection, of the different principles on which the dogmas of the Chriſtian religion are founded, that to be thoroughly acquainted with its whole theory, the theologian ſhould alſo apply himſelf to the ſtudy of the ſymbolic books of its communion, and eſpecially ſhould be well verſed in the *Creed of the Apoſtles*; that of *Nice* and *St. Athanaſius*; the book called *Formula Concordiae*; the *Theſes of the council of Trent*; the *Catechiſms of Luther*; the *Confeſſion of Augſburg*; the *Articles of Smalcalden*; the *Catechiſm of Heidelberg*, &c. That he ſhould be well acquainted with that part of Theology that is called *patriſtica*; that is to ſay, that he ſhould be well read in the fathers of the church; that he ſhould not be ignorant even of *ſcholaſtic theology*; that he ſhould at leaſt know the frivolous ſubtilities, and the complicated method of the ancient ſcholaſtic divines, which was derived from the philoſophy of Ariſtotle and the ſchools; that he ſhould make a ſerious ſtudy of the *ſacred* hiſtory of all ages; the *councils and ſynods*; that he ſhould, above all, never loſe ſight of *natural theology*; and laſtly, that it is indiſpenſably neceſſary, that he ſhould procure a good bibliotheque or treatiſe

tiſe of eccleſiaſtical writers *, which he may conſult occaſionally, and learn from thence to know the beſt guides. The more a theologian applies himſelf to all theſe ſubjects, the more ability he will acquire in this ſcience, and the more perfect he will be in the theory of that religion which it is his duty to teach to others.

IX. Revealed religion being founded (at leaſt in great part) on natural religion, and philoſophy being the ſource from whence the principles and knowledge of the latter are derived, it is evident that philoſophy is intimately connected with theology; nevertheleſs the aid of the former is to be employed with precaution, and is not to be regarded as the foundation of the theological dogmas, but only as a mean by which they may be explained and enforced. The holy ſcriptures conſtitute, perpetually, the true baſis of revealed theology; philoſophy effectually concurs, however, to prove the exiſtence and the attributes of the Supreme Being; the neceſſity of the creation of the univerſe by Almighty God, in oppoſition to every other poſſible manner of its being produced: it furniſhes, moreover, plauſible conjectures concerning the intention of the Almighty in creating this world; it proves the neceſſity of a perpetual power to preſerve it; it ſuppoſes, that, as God could not produce any thing that was not perfect in its kind, he could not have created man as he now is; it vindicates the conduct of the Supreme Being, in appointing chaſtiſements for tranſgreſſions, by ſhewing that moral evil was not introduced into the world by abſolute neceſſity, but by the abuſe of liberty, the moſt noble prerogative of the human ſoul; it determines the neceſſity of a Mediator; it furniſhes an infinity of arguments for the belief of the immortality of the ſoul, and of a future ſtate that has a relation to the moral actions of this life; and laſtly, it inſpires a love of God, as a Being of ſovereign

* Thoſe of Du Pin and William Cave are moſt celebrated.

perfection,

perfection, a gratitude towards him as our creator and preſerver, and a ſubmiſſion to his will as our ſupreme ruler and director, motives of all others the moſt powerfully conducive to a virtuous conduct.

X. It is this uſe which theology makes of philoſophy, that has given occaſion to divide the theſes of the dogmatic into pure and mixed; that is, into theſes that are founded entirely upon revelation, and ſuch as ariſe from an union of reaſon with revelation. Of the firſt ſort are, 1. The article of the holy ſcripture itſelf, which treats of its divine origin, its authority and its efficacy. 2. The dogma of the Trinity. 3. That of the original of evil, or of original ſin. 4. The whole article of Jeſus Chriſt. 5. The dogma of the efficacy and operations of the Holy Ghoſt. 6. That of the ſacraments. 7. That of Repentance. 8. That of the belief in Jeſus Chriſt. 9. That of good and bad angels. 10. That of the end of the world, and the laſt judgment. 11. That of the church, &c. The mixed dogmes or theſes are, 1. The doctrine of a Supreme Being, in general; his being, his attributes, and his works. 2. That of the creation. 3. That of providence, or the conſervation of the world. 4. Of ſin, as a tranſgreſſion of the laws of God. 5. Of rewards and puniſhments after death, &c. He that attentively ſtudies, thoroughly comprehends, and well digeſts all theſe theſes, will have reaſon to reſt content with his knowledge of the dogmatic.

CHAP. III.

Of the Exegesis and the Hermeneutic.

I. THE term *Exegeſis* is derived from the Greek verb ἐξηγεομαι, which ſignifies, to *relate* or *explain*; and that of *Hermeneutic* from ἑρμηνευω, which means to *ſearch into*, and in a figurative ſenſe, *thoroughly*

thoroughly to examine, and *interpret*. The learned, but eſpecially the theologians, make uſe of theſe words, ſometimes as ſynonyma, to expreſs the ſame thing, and ſometimes (as there are ſcarce any terms that are perfectly ſynonymous) to denote a ſmall difference between two parts of learning of the ſame nature. By the word Exegeſis they mean, *that ſcience which teaches clearly to inveſtigate the true ſenſe of the original text of the holy ſcriptures*; and by the Hermeneutic, *the art of interpreting and explaining the holy ſcripture to others* *. This diſtinction is ſo ſubtle, that it becomes almoſt frivolous. They are, in fact, the ſame ſcience; the one is only an explication of the other, and for that reaſon we think we are authoriſed to treat of them together in this place.

II. In order to the true underſtanding of the ſacred text of all the books contained in the Holy Bible, whether of the Old or New Teſtament, it is abſolutely neceſſary that the theologian be thoroughly accquainted, not only with the languages in which theſe books were originally wrote, but likewiſe with the hiſtory and antiquities of thoſe remote times in which their authors lived. We ſhall ſpeak of theſe languages more particularly in the xix chapter of the third book, and only mention them here on account of the direct relation they have to the hermeneutic. With regard to reſearches into the hiſtory of the Jewiſh nation, their antiquities, their morals and their cuſtoms, it will be found advantageous to purſue it as far as the nature of the ſubject will admit, without, however, engaging in critical ſubtilities, that lead to a labyrinth, to which there is no end, and have ſpread more clouds over theology, than even the ſcholaſtic controverſies have formerly done.

III. He who would ſucceſsfully interpret any work whatever ſhould firſt conſider the ſpirit in which it is wrote: he ſhould attentively reflect on

* The exegeſis is a kind of rational grammar. The hermeneutic is the art of interpreting entire paſſages.

the

the general deſign of that work, and the particular motives that induced the author to undertake it; his genius, his paſſions, his taſte; the time, the place, and the people for whom it was written. Theſe conſiderations are, above all, neceſſary, when we would undertake the explication of the holy ſcripture. Independent of thoſe reflexions which the theologian will of himſelf naturally make on the ſubject, the excellent commentaries which we have on the bible, in which the greateſt men of every age have exerciſed their genius, may ſerve him as a guide in this courſe. The critical hiſtories, ſuch as that of *Richard Simon*, and many others, will likewiſe afford great aid, and throw admirable lights on this matter. Clear ideas, an acute diſcernment, and a ſolid judgment, will complete the work

IV. With regard to the languages neceſſary for underſtanding the ſacred text, the Hebrew language holds the firſt place. The ſtudent ſhould have early recourſe to the *manner of accenting*, and the *Maſſoret* of the Jews: to theſe he may add, with advantage, the reading of the Jewiſh interpreters or *Rabbins*. There are the grammars and dictionaries Rabbinic and Talmudic, of Buxtorff, Cellarius, and others, which will greatly facilitate his ſtudy. The Talmud, it is true, is ſtuffed with a thouſand fables and ridiculous ſtories; it contains, notwithſtanding, ſome things uſeful and curious, which the learned theologian ſhould not entirely paſs over. For the well underſtanding of the explications and applications of the beſt Rabbins, he ſhould likewiſe have recourſe to their *Cabbala*, which they divide into *real* and *liberal*.

V. The *Maſſoret* is a kind of critique on the Hebrew text, that the ancient Jewiſh doctors invented, in order to prevent any alteration. They there count the verſes, the words and the letters of the text, and have marked all their diverſities. The text of the ſacred books was formerly wrote in cloſe continuation, without any diſtinction of chapters,

verſes, or even words, after the manner of the ancients, as we ſtill ſee in many manuſcripts. As the ſacred books have undergone an infinity of changes, which form various readings, and as the true original has been either loſt or altered, the Jews have had recourſe to this rule, which they have judged infallible, and which they call the Maſſora, to fix the reading of the Hebrew text

VI. The ancient Rabbins or Doctors of the Jewiſh law, have wrote many ſuperſtitious traditions, which they obſerve as ſcrupulouſly as the law of Moſes; and have alſo made many commentaries on the ſacred text, among which there are ſome that are good and uſeful. The language they uſe is different from the common Hebrew, as is alſo the Rabbinic character. We have a Rabbinic grammar of *Andrew Sennert*, and dictionaries of *David de Pomis* and *Otton*.

VII. The *Talmud* is a book in which the Jews have compriſed every thing that concerns the explication of their law, and the duties that are enjoined them by ſcripture, by tradition, or by authority of their doctors; by their particular cuſtoms, their civil government, their doctrine, their ceremonies, their moral theology, the deciſion of caſes of conſcience, &c. The Talmud is compoſed, in general, of two parts, which are called the *Miſchna* and the *Gémara*. The Jews would not at firſt commit theſe things to writing, but after the deſtruction of Jeruſalem, finding themſelves diſperſed in the world, they became obliged to it. They had two celebrated ſchools, one at Babylon, and the other at Jeruſalem; at theſe ſchools were made two different collections of traditions, each of which is called the Talmud. The commentary called Gémara, contains the deciſions of the Jewiſh doctors, and their explications of the text; it is filled with abſurdities, reveries, and ignorance, and wrote in a vulgar ſtyle. On the contrary, the text, that is called Miſchna, conſiſts of ſolid reaſoning, wrote in a pure ſtyle. The Rabbin Moſes, ſon of Maïemon,

mon, has made an abridgment of it, which is of more value than even the Talmud itself.

VIII. The Cabbala or Kabala (a Hebrew word, which properly signifies tradition) contains the different interpretations of the laws of God by different Rabbins; their decisions on the obligations that they impose, and the manner of performing them. There are some of them that are occult and mysterious, and consist in singular and mystic significations, which are given to a word, or even to each of the letters that compose it; and from these various combinations, they draw explications of the scripture very different from that which it seems naturally to import. This *Cabbala* is divided into three kinds; the first they call *Gématria*, and consists in taking the letters for the numbers of arithmetic, and explaining each word by the arithmetic value of the numbers that compose it: the second is called *Notaricon*, and consists in taking each letter for a word; or in composing a word of the first letters of several words: the third is called *Thémura*, and consists in changing a word, and the letters of which it is composed.

IX. The *Chaldee* seems to be indispensible, after the study of the Hebrew and Rabbinic; this is properly no more than a particular dialect of the Hebrew language. The Jews give to their commentaries, and to the Chaldaic paraphrase on the scripture, the title of *Targum*. As during their long captivity in Babylon, they had forgot the Hebrew, and only retained the Chaldean language, it became necessary to explain the prophets in that language; and to this necessity is owing the first commencement of the Chaldean paraphrase. The Rabbins have since collected together, these divers interpretations of their doctors, which form the paraphrase that is called Targum.

X. The other oriental languages, as the Arabic, the Syriac, the Samaritan, and the Coptic, are also of great use to the learned theologian. We shall speak of these more fully in the chapter of Oriental

languages, in the third book; and only mention them here, becauſe they immediately relate to the Hermeneutic.

XI. All the books of the new Teſtament being wrote in Greek, the ſtudy of that language becomes neceſſary to the theologian. But it muſt not be imagined, that this Greek is that of Athens or Lacedemon, and that they who underſtand the New Teſtament, will fully comprehend Homer, Anacreon or Thucydides. It is very neceſſary to obſerve here, that during the Babyloniſh captivity, the Jews, as we have juſt ſaid, having forgot the Hebrew, and having adopted, in proceſs of time, ſeveral idioms, the Greek language was at laſt ſucceſsfully diffuſed over almoſt all the Eaſt; and, at the time of the coming of Jeſus Chriſt upon the earth, that language was in uſe in Paleſtine, not only among men of letters, but in the polite world: every thing was wrote, every thing was treated of in Greek. The Jews no longer underſtood the holy ſcriptures in the Hebrew language, but made uſe of the verſion that the Septuagint had made of the Old Teſtament in the Greek language. The evangeliſts and the apoſtles, therefore, wrote their hiſtoric relations, as well as their epiſtles or letters, in the ſame language: but their ſtyle is not pure, being ſtrewed with hebraiſms and barbariſms, and with theological terms and phraſes. The four evangeliſts differ moreover among themſelves, with regard to their ſtyle, and ſo do the apoſtles; St. Mathew is not ſo elegant as St. John; nor St. Jude ſo elegant as St. Paul, who was a man of letters, and an able writer. The diction of St. Luke is the moſt elegant, and moſt correct, eſpecially in his book of the acts of the apoſtles.

XII. The tranſlations, that have been made of the ſacred books in the Weſt, will alſo very frequently aſſiſt in clearing up many paſſages. M. *le Long* has given a *Bibliotheque* of all the verſions and editions of the holy bible; which may be conſulted to good purpoſes; we ſhall have occaſion to ſpeak more

more particularly of these translations, in the chapter on sacred criticism.

XIII. The Jewish antiquities are naturally connected with the study of the sacred history of the Old Testament. *Josephus* is the best author who has wrote on this subject. *John Marsham*, *Vossius*, *Lælius*, *Gyraldus*, &c. are the moderns to whom we are indebted for learned researches into these matters. *Hermannus Wilsius*, in his treatise *de Ægyptiacis*, has thrown admirable lights on the Egyptian antiquities. The antiquities of the Chaldeans, Babylonians, Persians and Medes, have been excellently well explained by *Barnabas Brisson* in his book *de regno et rege Persarum*; and by *Thomas Hyde* in his treatise *de religione & sacris, Persarum*. The writings of *Meursius*, and the *Compendium Antiquitatum Græcarum* of *John Potter*, are very useful to give theologians an idea of what they will find necessary to know of the Grecian antiquities; and lastly, the abridgment of *Cantel* will make them sufficiently acquainted with the Latin antiquities.

XIV. *Spencer* has given an excellent work on the ceremonies of the Jewish religion, intitled, *de Legibus Hebræorum ritualibus*, &c. We have likewise works that fully treat of their temples, their sacrifices, their priests and levites, their passover and purim, of their tythes, their vestments and sacred habits, and of their manners and customs; but it would be too prolix to mention all these in this place.

XV. The modern commentaries on the holy scriptures may also serve to instruct the young theologian; but he should use them with caution and moderation. All that glitters is not gold, as well in this instance as in others; and a man of learning should not often make use of other people's eyes.

XVI. The Bibles, called *Polyglots*, are also of great assistance in interpreting the sacred text. They are printed in several languages. The first is that of Cardinal *Ximenez*, printed in the year 1515, and called the *Bible of Complute*: it contains the He-

brew text, the Chaldean paraphraſe, the Greek verſion of the Septuagint, and the antient Latin edition. The ſecond is that which is called the *Royal Bible*, printed at Antwerp in 1572. The third, that of *le Jay*, printed at Paris in 1645. The fourth is the *Engliſh Polyglot*, printed at London in 1657, of which Walton is the editor. There are ſtill ſeveral more that have been printed ſince, but they are neither ſo complete nor ſo celebrated as the former.

XVII. The Bibles that are called *Biblia Gloſſata*, are alſo here of very great uſe. The ſacred text is there every where accompanied with explanations and obſervations. There are of theſe in each of the three principal communions of the Chriſtian Religion, and in moſt of the modern languages of Europe. Laſtly, as the interpretation of the ſacred text depends in great meaſure on the lights and the proofs drawn by comparing together different paſſages of ſcripture, there are ſeveral bibles, where the editors have placed, on the ſide of each verſe of the text, what they call the *Concordance*, that is, a citation of other parallel paſſages, which are found diſperſed in the Old and New Teſtament. Theſe Concordances are of daily and indiſpenſible uſe to the divine, in compoſing his ſermons, and in many parts of his miniſtry.

XVIII. Theſe paralleliſms are yet different from that which theologians call the *real paralleliſm*; by which they mean, *the relation that the typical or parabolic ſenſe of a paſſage has with what the expreſſions literally imply, or ſeem to imply; the myſtic ſenſe with the real ſenſe; the figures and the images that the ſacred authors have employed, with the things or the objects that they intended to deſcribe.* The greateſt theologians have taken infinite pains in determining theſe points, in explaining them, and producing their proofs: in many places they have ſucceeded; and we cannot but admire their ſagacity, their zeal,

and

and their ſucceſs: it muſt be acknowledged, however, that they have not cleared up all the obſcurities; that there are many dark paſſages ſtill remaining in the Prophets, in the Song of Songs, in the book of Job, and above all in the Apocalypſe; on which have been hitherto thrown mere glimmerings, which are very far from affording a ſufficient light. The explications, that have been attempted of theſe paſſages, are frequently ſo unjuſt, ſo unnatural, and improbable, and at the ſame time ſo futile, that they rebel againſt common ſenſe, and only give us occaſion to deplore the imbecillity of the human underſtanding.

XIX The laſt labour of him who would become acquainted with the Hermeneutic, is in what is called *Lectio Acroamatica*; by means of which, each book of the Holy Scripture is examined from one end to the other, with relation to geography ancient and modern, genealogy, chronology, hiſtory, and antiquities; from whence a rational ſyſtem is formed, according to the rules of ſound logic. This work is attended with ſo many difficulties and diſtractions, that it is almoſt impoſſible to accompliſh it, without the aſſiſtance of a guide, an able profeſſor, and a complete academical courſe.

XX Furniſhed with theſe ideas, the theologian may venture to inveſtigate the true ſenſe of thoſe paſſages of Holy Scripture that may appear to him obſcure, contradictory, or difficult, and to interpret them to others: but he will be more wiſe, and leſs vain, than to attempt to impoſe his deciſions on mankind, at all times, as authentic and infallible. The human diſcernment is ever confined and imperfect; and God has not granted to any man, to any theologian or aſſembly of divines, an excluſive power of interpreting his divine word: he has moreover denounced his anathama againſt all thoſe who ſhall add, or take away, a ſingle word thereof. But to explore the true ſenſe of any paſ-

ſage, and to explain it to others, cannot certainly be deemed either adding or retrenching.

CHAP IV.

Of Sacred Criticism.

I. AS the authors and profeſſors, who treat of the different parts of theology, make frequent mention of the ſacred criticiſm, we muſt not omit to ſhow in what manner it is connected with the Exegeſis and the Hermeneutic, and in what reſpect it forms a ſeparate doctrine or ſcience Criticiſm, in general, is in fact no more than a ſuperior part of grammar; a kind of rational grammar founded on reflection, and on the rules of language; but which employs the aid of divers other ſciences, as hiſtory, chronology, antiquities, &c. in order to ſearch out and determine the true ſenſe of an obſcure or ambiguous paſſage. The ſacred criticiſm is only diſtinguiſhed by its object; it adopts the ſame rules, but it adds others which take their riſe and principles from the peculiar language of the New Teſtament; and has regard to the Bible in general, on account of the nature, eſſence, and qualities, of its divine author. So far it has an intimate connexion with the Exegeſis.

II. But, if we would conſider it as a ſeparate ſtudy, we may ſay, that it is a ſcience which is employed in examining the exterior circumſtances of the holy Scripture. For example: in what time each book was wrote; who was its author; the preciſion and fidelity of the text; the diſtinction between the canonical books and the apocryphal; and many other matters of like nature. In order ſtill the better to ſhow in what manner, and with how much precaution, the ſacred criticiſm proceeds

ceeds in its operations, we ſhall here recite ſome of thoſe ſubjects that belong to its province.

III. It is commonly received that it was Eſdras who, after the return from the captivity of Babylon, collected and fixed the canon of the ſacred books of the Old Teſtament. This at leaſt is the opinion of the Jews, who all attribute to him that glorious work; and the aſſertion appears ſo much the more probable, as it was the ſame Eſdras who re-eſtabliſhed their ſtate; who brought the whole Jewiſh people into one body as a nation, and formed the Judaic republic, which was ſo intimately connected with their religion. The collecting of the canon of the books of the New Teſtament is attributed, with great appearance of probability, to St. John; although hiſtoric and formal teſtimonies of it cannot be produced, unleſs it be what St. Euſebius relates of the four Evangeliſts. In proceſs of time, each council has decided what books ſhould thereafter be held by the Chriſtian church as canonical; and we commonly find, at the end of the decrees of each council, a repertory or liſt of thoſe books.

IV. The Old Teſtament was wrote in Hebrew, except a ſmall number of paſſages where the dialect is Chaldean. The form of the letters or characters, as we now have them, are alſo properly Chaldean; whereas, before the Babyloniſh captivity, the Samaritan character was probably uſed. Buxtorff and Capell have had warm diſputes upon the ſubject of the vowel points: the former would retain theſe points, and the latter rejects them; each of them has had his adherents. As it is impoſſible to decide in this diſpute but by hiſtoric proofs, and as theſe are not to be had, either for one ſide or the other, it is beſt to leave the affair undecided; not totally rejecting the points however, as they are of infinite uſe in the ſtudy of the Hebrew language. They who love to introduce novelties into religion, (ſay the partiſans of Buxtorff) would doubtleſs be

charmed to ſee the points totally aboliſhed, becauſe they then could make whatever they pleaſed of the ſacred text. The adherents of Capell maintain, on the contrary, that by the ignorance, or inadvertence of copyiſts, theſe points may have been tranſpoſed formerly, or may be eaſily confounded and wrong placed hereafter; which may occaſion the moſt dangerous errors; may give riſe to contrary meanings, and whimſical explications of the ſcripture; whereas, by not admitting the points, an able theologian will preſerve, at leaſt, the liberty of explaining a paſſage according to analogy, and the rules of good ſenſe.

V. The *accents* have given riſe to full as many diſputes: but this queſtion is not decidable but by the ſame method as the preceding: for we clearly ſee, by all the ancient manuſcripts, that even the Greeks and Romans have wrote without accents, but that both one and the other make uſe of vowels. In poetical works eſpecially, it is almoſt impoſſible to omit them; and that language being now dead, without accents, we can find no cadence, no meaſure. Father Montfaucon aſſerts, with great appearance of probability, that accentuation was not introduced till the ſeventh century.

VI. The language of the New Teſtament is the Greek; for all that is ſaid of the goſpel of St. Matthew being wrote in Hebrew, and of that of St. Mark being originally compoſed in Latin, is but weakly ſupported. The ſtyle, as we have already remarked, is not pure, whatever ſome zealots may improperly, and without reaſon, aſſert to the contrary. The language of the New Teſtament abounds with hebraiſms.

VII. The preciſion, the truth, and correction of the text, is the reſult of repeated and judicious compariſons of the variations; of which there are, according to Dr. Mill more than twenty thouſand. Theſe variations have proceeded, partly from the negligence of the copyiſts, and partly from the ignorance of the reviſors and correctors of the ancient manuſcripts,

manuſcripts, who have frequently added and incloſed the comments, which were wrote in the margin, with the text. The heretics of the firſt ages, and the impoſtors, have alſo made divers alterations in the text itſelf, in order to ſupport their errors; and theſe alterations have ſlid into other copies. It is the common rule to follow the moſt ancient manuſcripts, as it is ſuppoſed, with reaſon, that they are the moſt correct; and to theſe are alſo added the moſt ancient verſions.

VIII. The firſt of theſe verſions is that of the *Septuagint*, which has been at all times highly eſteemed, as well by the Jews as the Chriſtians. The Hebrew language being loſt by the Jews, during the captivity in Babylon, and the Greek dialect becoming the common language of the Eaſt, that verſion was made in Egypt by public authority, and for the uſe of the common people. The ſecond is that called the *Vulgate*, which was formed from the tranſlation of St. Jerome, and from another that was called *Verſio antiqua*. After theſe two tranſlations come the Greek verſions, among which are reckoned: 1. That of *Aquila*, who has tranſlated the original Hebrew verbatim, by putting over each word of the Hebrew text, its correſponding Greek term. 2. That of *Symmachus*, who applied himſelf to write the Greek with purity and elegance. 3. That of *Theodotion*, who has very cloſely followed the text, notwithſtanding the fine language he employs. *Origen* publiſhed theſe verſions in ſix languages in his edition of the Old Teſtament, which he calls *Hexapla*. To all theſe verſions may be added, 4. Thoſe of *Jericho* and *Nicopolis*, which are much celebrated. We have not now any one of theſe verſions entire The fragments that remain of them have been collected and publiſhed by *Druſius* and F. *Montfaucon*. Laſtly, 5. The *Syriac verſions*, of which one was made on the Hebrew text, and the other on the Greek.

IX. The ſacred criticiſm is likewiſe employed, in acquiring a knowledge of the principal and moſt celebrated

celebrated manuſcripts, as well of the ſacred text itſelf as of the tranſlations; in learning to diſcern the hand writing, and the eſſential characteriſtics which diſtinguiſh the real original from the counterfeits: and laſtly, it is employed in knowing the beſt modern editions of the Holy Bible; as for example, the Polyglots, among which thoſe of London, of the years 1653 and 1655, are the beſt. The introduction by Walton, which is at the beginning of theſe editions, is a model and a maſterpiece of ſacred criticiſm.

CHAP V.

Of Moral Theology.

1. IF it were allowable to compare the Saviour of the world to a weak mortal, I would ſay, that the conduct of Jeſus Chriſt reſembled that of Socrates, who has left us no part of his doctrine in writing, but whoſe whole inſtructions (as well as the particulars of his life) have been collected, digeſted, and publiſhed, by his diſciples. The Evangeliſts are the only hiſtorians of the Meſſiah: it is to their labours that we owe the knowledge of his actions upon earth, and his divine doctrine. The four Evangeliſts, and the Acts of the Apoſtles wrote by St. Luke, contain therefore *alone* the hiſtory of the life of Jeſus Chriſt, and the doctrine that he taught. His apoſtles and diſciples began by paraphraſing his doctrine, as well by their evangelic ſermons, as in the epiſtles they addreſſed to the faithful of ſeveral Chriſtian Churches; they have given explications, and have added paſtoral inſtructions; which are in effect admirable; but which, nevertheleſs, form not the original text of the diſcourſes of our

our Saviour. The biſhops of the apoſtolic century, the fathers of the church in all ſucceeding centuries, the other biſhops and eccleſiaſtics, the councils, the ſynods, the doctors of theology, the popes, the conſiſtories, the reformers likewiſe, and an infinity of theologians, have drawn from the Goſpel, and ſometimes alſo from the letters of the apoſtles, and from other commentaries on the Goſpel, various tenets; which united, form at this day the general ſyſtem of the Chriſtian Religion. The theologians, who devote themſelves to the ſervice of the altar, ſtudy this ſyſtem in the dogmatic: the laity learn it by means of catechiſms; and after they have made confeſſion of their faith, ſolemnly adopt it, when they are received into the boſom of the church.

II. It is not the ſame with regard to the morality of Jeſus Chriſt, which every one may read in the Goſpel, and to know which, it is not neceſſary to become learned, nor to ſtudy a complicated ſyſtem. If the dogmatic were not armed with a thouſand arguments to eſtabliſh the Divinity of Jeſus Chriſt, yet would the morality of his Goſpel ſufficiently prove it; ſeeing that it is perfectly holy, entirely ſimple, ſtrictly juſt, and moſt completely adapted to promote the felicity of the human race in this world, and in that which is to come. The Saviour of the world has not enjoined any part of mankind to engage in diſputes, or abſtract refinements; the ſole command that he has given them is, *to believe in his Goſpel*, and that is compriſed in one word only, LOVE: the grand and only principle on which the whole of his ſacred doctrine is founded.

III. To produce the greateſt effects poſſible, by the leaſt efforts, is the higheſt perfection in nature, and at the ſame time the true characteriſtic of Divinity. God has given to all the beings that compoſe the univerſe, one ſimple principle alone, by which

which the whole, and every part, is connected and perpetually ſupported; and that is LOVE. The attraction of the celeſtial bodies, as well as of thoſe of which our globe is formed, is a ſpecies of LOVE; a mutual tendency towards each other. The uniform generation, by which all beings are perpetuated, is founded in LOVE. This is the true *minimum*, the true ſyſtem of *the leaſt action*, which includes ſomething ſo divine. It appears to be the will of God to eſtabliſh, by the mouth of the Meſſiah, the ſame ſimple principle in morality, that is, in the rule of human actions, by ſaying, LOVE: in a word, it was his will, that in the conduct of mankind, as in every other part of nature, there ſhould be no other principle than that of LOVE.

IV. That in the different ſyſtems of ethics of the ancient Heathen Philoſophers, many maxims and precepts of admirable morality are to be found, cannot be denied; but, beſide that theſe philoſophers are almoſt continually contradicting each other in their maxims, no one of their ſyſtems is founded on the true principle. In ſearching after it, they have diſcovered ſome excellent truths, but it has been by chance, and they are at beſt imperfect. Jeſus Chriſt has alone taught mankind perfect morals, by deducing them from this true principle. Every principle ſhould be ſimple: the idea of a compound principle implies at once an imperfection. Every principle ſhould be comprehenſive, even univerſal in its effects. Every principle, whoſe effects are limited, is imperfect. God himſelf is uniform in his principle, and infinite in his effects. His doctrine, or his law, ſhould be the ſame. Jeſus Chriſt has made known to mankind this principle, ſimple and univerſal. He has therefore been, in this ſenſe alſo, the true Saviour of the world. He has preached to mankind; and his only doctrine has been that of LOVE.

V. By

V. By the word LOVE, with regard to *Bodies* in general, is meant a tendency, a mutual inclination that urges them to join and to coaleſce; and with regard to men in particular, a lively, affecting pleaſure that poſſeſſes the mind on contemplating the perfections of any object. This pleaſure is always accompanied with a deſire, either to poſſeſs that object, or to render it propitious. By adopting therefore this principle, and this laſt definition of LOVE, it follows, that all the duties of man conſiſt,

1. In the love of God in preference to all other objects.
2. In the love of himſelf.
3. In the love of his own ſpecies.
4. In the love of every other creature to a certain degree.

The doctrines of Jeſus Chriſt are, in theſe reſpects, the moſt explicit.

VI. From this principle flows our *duty* towards God, towards ourſelves, our neighbour, and to thoſe beings that are ſubject to our power. The firſt rule is, to communicate to all thoſe, whom it is our duty to love, all the good, and to preſerve them from all the evil in our power. The ſecond, to do to no one what we would not have done to ourſelves in ſimilar circumſtances. The third, which is the ſimple effect of love, is to endeavour to pleaſe the object that we ought to love. The fourth, to endeavour to render the pleaſures that we communicate to others, as lively as poſſible, and thoſe inevitable evils, which we are ſometimes conſtrained to do to them, as ſupportable as we can; and ſo of the reſt. The whole evangelic doctrine of our Saviour is replete, from beginning to the end, with admirable precepts, for theſe purpoſes; and theſe precepts, with their applications, general and particular, we learn from that ſcience, which we call Moral Theology.

VII. This

VII. This doctrine we diſtinguiſh from moral philoſophy, or the ſimple doctrine of Ethics; becauſe Jeſus Chriſt has made known, in his divine morality, a far greater degree of perfection than is diſcoverable by the mere light of human reaſon. For the renouncing of ſelf-intereſt, and private pleaſure; the forgiveneſs of offences; the love of his enemies; the triumph over deſtructive paſſions; and many other like virtues, the Chriſtian is alone indebted to the doctrine of Jeſus Chriſt.

VIII. In order to ſhew, moreover, in a few words, of how eaſy, juſt, and natural an application all theſe precepts are ſuſceptible, we ſhall here give a few inſtances. It is our duty to love God. Now nothing is more natural than to feel a lively and penetrating pleaſure in the contemplation of the united perfections of the Supreme Being; nothing more natural than a deſire to pleaſe him, and to render him propitious to us: and as it is not poſſible for us, weak creatures, to do him either good or evil, all our power to pleaſe him conſiſts in offering him an upright heart; a rational devotion; to be poſſeſſed with gratitude toward him, and to exert all poſſible efforts to accompliſh the end of our creation. It is our duty to love all mankind; and yet we inflict pains and chaſtiſements on ſome of them; we even put them to death: but we chaſtiſe them only to render them better, to prevent them from becoming pernicious to ſociety in general: we retrench the number of the living, as we cut off a corrupted branch of a tree, in whoſe preſervation we are intereſted: it is becauſe we love mankind that we endeavour to prevent the deſtruction of the good by the malignity of the wicked: but it muſt ever be an indiſpenſible neceſſity alone that can compel us to chaſtiſement. It is our duty, likewiſe, to feel a kind of love for other creatures, even for mere animals; nevertheleſs we harraſs, we oppoſe, we deſtroy them. If we harraſs them wantonly, to ſupport a criminal luxury, or to ſatisfy a brutal pleaſure;

if

if we purſue a ſavage chaſe, or encourage combats between animals themſelves, or other like horrible diverſions, we act contrary both to the ſpirit and the letter of the Goſpel. But if we deſtroy a part of theſe animals, to ſerve as an indiſpenſible nouriſhment to man, obſerving at the ſame time to put them to the leaſt miſery poſſible, and taking all neceſſary care for the preſervation of the ſpecies, we act in conformity to the laws of nature and of morality; we employ to our own preſervation, and to that of the reſt of mankind, what appears deſtined to that purpoſe by the Creator.

IX. Moral theology likewiſe differs from philoſophy, inaſmuch as it requires that our virtues be abſolutely diſintereſted: it enjoins us to fly the evil and to purſue the good, merely as our duty towards God: it admits indeed the precept of the love of ourſelves, and the love of our neighbour, but it regards this love only as a duty that reſults from our love towards God; and that from the principle, that God muſt love all his creatures as the work of his hands; and that we cannot therefore, from the very nature of love, pleaſe him, without entertaining ſentiments of affection towards thoſe to whom the Sovereign Lord of the Univerſe vouchſafes his benign regard. Now, as the Chriſtian morality does not regard virtue, but as it is a duty towards God, and as it conſiders all our actions, that have any other motive, either as blameable, or at leaſt imperfect, and as but little acceptable to the Supreme Being, it does not regard the advantages that reſult from them to ſociety, but as uſeful conſequences of the true Chriſtian virtue; and from this principle it draws new arguments for the encouraging of mankind to the practice of it.

X. From what has been ſaid, a ſecond difference ariſes between Chriſtianity and philoſophy. The firſt adds to the ſecond ſtill new motives to the practice of virtue. That of redemption, and pardon, obtained by Jeſus Chriſt, is not one of the leaſt.

Its argument is this: if God has ſo loved mankind, as to afford them the means by which the evil, cauſed by their own fault, may be aboliſhed, it would be the greateſt of all ingratitude and malice towards himſelf, if man ſhould not endeavour to acknowledge this love, to merit, and to embrace the means of pleaſing God. A third motive, taken alſo from the merit of Jeſus Chriſt, here offers itſelf as an auxiliary to the two former: according to the Chriſtian doctrine, man has not by nature the power to practiſe all thoſe virtues which are agreeable to God; but the ſame doctrine teaches, on the other hand, the conditions by which it is poſſible to pleaſe that moſt holy and perfect Being; and gives the Chriſtian hope alſo, that he ſhall never labour in vain.

XI. Laſtly, the Chriſtian morality is of far greater efficacy in adverſity, than philoſophy: it carries with it a wonderful conſolation in misfortune, and even in the hour of death; for the Chriſtian may ſay, with the Apoſtle, *that Godlineſs* (or the practice of evangelic morals) *is in all things profitable, having the promiſe of the preſent life, and that which is to come.*

CHAP. VI.

Of Polemic Theology, or Controversy.

I. WE cannot ſufficiently lament, that the church of the God of Peace ſhould be a *church militant*; and that a doctrine, ſo ſimple and clear as that of the Goſpel, ſhould be the cauſe of diſcord, even among Chriſtians themſelves. Nevertheleſs, as the truth is ſo difficult to diſcover in all things, and eſpecially in matters of religion; as it is ſo frequently covered with the clouds of intereſt and ambition; as the ſame object appears ſo different to different men; and as error, in the face of

of the world, conſtantly aſſumes the maſk of truth? it is but juſt that the true religion be furniſhed with arms to combat error, and to pluck off the deceitful maſk, by which ſo many poor mortals are ſeduced *.

II The theologian, who has made the proper preparatory ſtudies, who is thoroughly inſtructed in natural religion, in the dogmatic and the hermeneutic, and who joins to theſe ſound logic, is already well prepared for this ſpiritual combat: he is armed, but he is ſtill to learn how to uſe theſe arms: he muſt alſo be made acquainted with the enemies he is to encounter, to know their force, and the arts they will uſe againſt him. It is plain enough, I ſuppoſe, that I here ſpeak of ſpiritual arms; of thoſe with which we are furniſhed by reaſon and the Holy Scripture: evil be to him that employs any other: force is ever an infallible proof of the want of argument. The propagation of a religion by the ſword, after the manner of Mahomet; perſecutions, either ſecret or open; conſtraint, violence, every ſort of religious war, is ſo atrocious, ſo contrary to the ſpirit of the Goſpel; in a word, ſo deteſtable, that every true Chriſtian muſt avert his ſight from ſuch infamous horrors.

III. Controverſy is conducted, either from the pulpit or chair, by way of harangue, by converſation, or by writing. The firſt quality that is neceſſary to a diſputant, is *reaſon*, and the next, *moderation*; in what manner ſoever the conteſt is conducted, theſe two qualities ſhould conſtantly be manifeſt, during the whole courſe of altercation.

IV. There are ſome errors that attack the *ſyſtem* of religion, and there are others that attack even its *morality*. In order properly to oppoſe an error, we muſt begin by finding out its real meaning:

* It is from the combination of theſe ideas that controverſy ariſes, and it is the Polemic that forms the arſenal, ſo to ſpeak, where theſe arms are diſpoſed; that teaches at the ſame time the art of uſing them, and which may be called the Theological art of war.

we

we muſt therefore ſtudy the different ſyſtems of other religions, and the principal hereſies, if we would ſucceſsfully refute them. We do not mean by this, that the theologian ſhould know all the errors that ſpring up in the brain of each individual; we ſpeak only of thoſe that are profeſſed by whole ſects.

V. They who attack our religion, found their opinions, either on the interpretation of the ſacred text, or on philoſophy, or hiſtory; and we ſhould always oppoſe them with the ſame arms with which they pretend to defeat us. It is neceſſary to begin by diveſting ourſelves of all prejudice, in order the better to ſhow others thoſe prejudices by which they are deluded. We ſhould never make uſe, but eſpecially when we oppoſe weak minds, of opprobrious terms in the courſe of the debate, nor contend about words or expreſſions, nor attack incidental circumſtances that may attend erroneous principles; but bend our whole force againſt the root of the tree, the principal error; to uncover it, to dig it up, to deſtroy it.

VI. Polemic theology is taught in univerſities by two methods, according to the views of the ſtudent. If he learn it merely in order hereafter to defend his pariſhioners againſt the moſt prevalent errors, he has only to examine the principal controverſies according to the ſyſtematic order of theology; and may content himſelf with knowing their true meaning, together with the arguments of thoſe that oppoſe them. But if it be his intention to teach this ſcience to others, or to engage in controverſy, either by converſation or writing; in ſhort, if he aſpire to renown in it, he ſhould ſtudy the origin and hiſtory of each controverſy, he ſhould make himſelf a complete maſter of the arguments for and againſt it, the exceptions that it makes, its intereſts, its different revolutions and actual ſtate, &c. Theſe follow, in this ſtudy, either the order eſtabliſhed in the dogmatic, or that which is uſed in ſymbolic books, that is, ſuch as treat on articles of faith.

VII. In

VII. In order the better to elucidate the method to be obſerved in this ſort of ſtudy, we ſhall ſay, that to acquire a complete knowledge of theological diſputes, the ſtudent ſhould, 1. Make the examen of each religion, and even of each controverſy. 2. He ſhould thoroughly examine his ſyſtem in the ſymbolic books, and likewiſe the ſources of his religion. 3. He ſhould preciſely determine the principal and capital error of each religion, ſect, or individual; that which is the ſource from whence all the other errors flow. 4. Search into the political cauſes of each error, and each controverſy, from hiſtory. 5. Examine the natural order according to which all the errors have taken their riſe, the one from the other: and laſtly, 6. Confront the reſpective arguments, the anſwers, and exceptions, that each party has made to defend its cauſe. To all this is to be added, 7. What they call *Collegium diſputatorium*; an exerciſe, by which all, that is learned in the cloſet and in the ſchools, is called forth and animated, under the inſpection of a profeſſor; and the mind is accuſtomed to think, and the tongue to ſpeak, with facility and efficacy.

VIII. The principal conteſts in which the theologian may be engaged, are, 1. Againſt thoſe who admit of no revealed religion, as the atheiſt and deiſt. 2. Againſt thoſe who admit of a revealed religion, but adopt not the true Revelation, as the Heathens, the Mahometans, &c. 3. Againſt thoſe who believe only a part of the true Revelation, as the Jews. 4. Againſt thoſe who add to the true revelation matter foreign to it, as traditions, &c. 5. Againſt thoſe who make a falſe interpretation of the ſacred text, and draw from it erroneous ſyſtems, as the heretics and ſchiſmatics, &c. and laſtly, 6. Againſt thoſe who make a wrong uſe of certain expreſſions of Revelation, and build, on whimſical notions, ridiculous ſyſtems, as the Fanatics, Quakers, &c.

IX. According

IX. According to this diviſion, the theologian will have to combat principally with,

1. The Atheiſts, with Spinoſa at their head.
2. The Deiſts.
3. The Heathens and Idolaters.
4. The Mahometans.
5. The modern Jews.
6. The Arians and Manicheans, or rather thoſe who in theſe days follow their ancient errors.
7. The Socinians.
8. The Catholics, oppoſed to the Proteſtants.
9. The Proteſtants, oppoſed to the Catholics.
10. The Moliniſts, oppoſed to the Janſeniſts.
11. The Janſeniſts, oppoſed to the Moliniſts.
12. The Reformed, oppoſed to the Lutherans.
13. The Lutherans, oppoſed to the Reformed.
14. The Arminians.
15. The Anabaptiſts.
16. The Weigelians.
17. The Quakers or Tremblers.
18. The Fanatics, at the head of whom is Jacob Boehm.
19. The pretended new Prophets.
20. The Indifferents.
21. The Pietiſts.
22. The Moravian Brethren, or the Herenhuters, &c.

X. Now, as each of the religions, communions, or hereſies above mentioned, have not ſcrupled to publiſh to the world their dogmas and creeds, the theologian ought, carefully, to inſtruct himſelf in thoſe ſymbolic books, in which each of them have compriſed its ſyſtem; to ſtudy and to make a good analyſis of them, according to the method that we have propoſed, and to prepare ſuch arguments as are the moſt juſt, the moſt weighty, and proper to confute them.

XI. Before we quit this ſubject, there is one remark to be made, or rather one caution that is very eſſential, which we would offer to the young theologian; which is, that the polemic is uſeful, and

and even neceſſary in the ſtudy of theology in general; but that it is a diſcipline which ought to be treated with great prudence and moderation. Diſputation in general is a dangerous art; and religious diſputation is a deceitful art, and of infinite peril. The ſtudent will do right well to remember, that there is no ſect, no communion on earth, that is perfectly true in all its dogmas without exception; that there are ſome ſmall errors in all religions: that infallibility never was, nor ever will be, the portion of humanity. He ſhould likewiſe remember, that the maſters who teach him, or the books that he reads, are conſtantly partial to the religion they profeſs: and that when he has ſupported a theſis, and confuted his adverſaries in a collegial diſpute (where his adverſaries, as well as his preceptors, are of the ſame ſide of the queſtion, and will not fail to adjudge him the victory) he ſhould be perſuaded, that the victory would not have been ſo eaſily obtained, had he contended with able adverſaries of the oppoſite religion: he ſhould remember, that we triumph without glory when we combat without danger; and let him not be vain of his laurels, nor imagine himſelf ſome wonderful ſcholar; ſeeing that it is very poſſible, that he may go off victorious from ſuch a diſpute, that he may receive vaſt applauſe from his profeſſors and his colleagues, and at the ſame time have reaſoned like a dolt.

XII. On the other hand, the moſt able theologians, and the moſt conſummate profeſſors in this ſcience, ought to be conſtantly on their guard againſt the abuſe of polemic theology; which frequently ſerves leſs to clear and confirm the truth of the dogmas of a communion, than to eſtabliſh perpetual diſcord and hatred among Chriſtians. Every theologian ſhould alſo remember, that by the nature of the ſubject, it is not poſſible to produce *demonſtration* in ſupport of his theſes and opinions; but that his arguments will be only valid, and preponderate in proportion to their degree of evidence; and laſtly, that it is a ridiculous and inſufferable vanity to imagine,

gine, that every man, who does not think preciſely as we do, is guilty of a palpable error.

CHAP. VII.

PASTORAL THEOLOGY.

I. HAVING deſcribed the theoretic ſciences of theology, we now come to thoſe which regard the practice. It would be to bury the talents that God has given him, and the ſtudies that he has made, if the theologian did not employ them to the edification of his neighbour, and the proſperity of the Church. His office in ſociety is attended with conſtant and anxious labours. He is charged with the *cure of ſouls*, with the inſtruction of youth, with preaching of the Goſpel, the conduct of his flock, and the adminiſtration of the Sacraments, with viſitations to the ſick and the dying, with calming the terrors of weak minds, with adminiſtring comforts to afflicted ſouls, and many other functions equally difficult and important. The practical ſciences that we ſhall here deſcribe, will ſerve him as guides in this unbounded field.

II. Paſtoral theology is uſually divided into three parts, which are,

1. Homilitic Theology.
2. Catechetic Theology
3. Caſuiſtic Theology.

To which are added,

4. The Conſiſtorial Prudence, which includes the ſtudy of the Canon Law.
5. The Prudential Exerciſe of the different functions of the miniſtry.

As the homily makes a part of eloquence, and conſequently belongs to thoſe ſciences that take their riſe from the imagination; and as the canon law belongs

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to the general ſyſtem of the civil law, we ſhall treat of them in their proper places, where the reader will find the analyſis of each of them: of the reſt in order.

III. It is in vain that a ſon of the church poſſeſſes all the ſciences that belong to his profeſſion, that he is an agreeable and even a renowned preacher, if he do not give a life, an efficacious ſpirit to his miniſtry, by a *good example*; for that is the firſt precept in paſtoral theology. He is at the head of a flock, and ought to be their guide: but how abſurd, if his words and his actions be at continual variance with each other! How ſcandalous, if he be not the firſt to practiſe theſe leſſons of wiſdom that he preaches! How indecent, if, while he edifies by his diſcourſes, he diſguſts by his morals! What baſeneſs, if he ſhould even glory in his irregularities! It is leſs ſhameful for a ſoldier to relate, that he has tamely ſuffered an affront, than for an eccleſiaſtic to boaſt of his debaucheries! But the one and the other is a diſgrace to his profeſſion.

IV. But this exemplary conduct ſhould be free from all affectation in the external behaviour, A ſingularity of dreſs, and an air of auſterity; the head declined, the eyes turned up to heaven, the hands conſtantly claſped, a plaintive tone of voice, and a ſolemn gait; a ſcrupuloſity in things indifferent, and a dogmatic and clerical manner of deciding in the common affairs of life; a ridiculous inclination to diſcover iniquity in innocent actions; to confound pleaſure with vice, and to be an enemy to joy, the greateſt boon that God has beſtowed on man; and a hundred other like fopperies there are, with which the religious make a parade, that is ſhocking both to good ſenſe and the evangelic morality, and which render their miniſtry, in the eyes of ſenſible people, more contemptible than reſpectable. Theſe are rocks on which the young theologian is much too liable to run, and of which he cannot be ſufficiently cautioned.

V. After this candid caution, and brief introduction, we paſs to the examen of the different parts, the union of which compoſes the ſyſtem of the paſtoral, the moſt important article perhaps, in all theology. The deſign of Revelation was, without doubt, to conduct man by faith to a virtuous life. It is not the opinions or the learning of weak mortals that can determine their intrinſic merit; it is their wiſdom, their regularity of conduct, that muſt ſtamp their value. Experience ſhews, that a man of great genius and learning may be alſo a great villain; one who is unable to pleaſe God, or his neighbour: the virtuous Chriſtian, on the contrary, muſt be agreeable to both; it follows therefore, that the practical part of theology, which leads mankind to a virtuous conduct, is of all its parts the moſt important.

CHAP. VIII.

Catechetic Theology.

I. BY Catechetic Theology is meant, *The art of teaching youth, and ignorant perſons, the principal parts of the Evangelical Doctrine, as well with regard to belief as practice.* This application of the theoretic ſciences of theology ought to be conducted in the moſt ſimple manner poſſible. It is not every one who is poſſeſſed of the talent of properly compoſing and delivering catechetic inſtructions; and it is an art that is very neceſſary in the Chriſtian church.

II. The greateſt difficulty conſiſts in ſeparating the articles of faith that are abſolutely eſſential and indiſpenſable to the ſalvation of mankind, from thoſe that are ſubtle and ſpeculative, more liable to contradiction, and leſs neceſſary to ſuch as do not make theology their profeſſion. However, as children do not always remain children, and as the church

church is compoſed of perſons of both ſexes, and of all ages, it is neceſſary, that in the explanations of the catechiſm, there ſhould be employed different degrees of ſimplicity proportioned to the age and capacity of thoſe that are to be inſtructed. It is expedient for young people to retain in their minds the firſt principles of religion; ſuch as are contained in good catechiſms; and that they be explained to them in particular lectures: which is the moſt uſual and moſt natural method of enabling youth to give an account of their faith. The ſermons that are given in the Catholic churches on controverſy, and in Proteſtant churches on the catechiſm, ſerve to inſtruct thoſe who are of riper years and have their judgment more formed. Theſe ſermons compoſe, at the ſame time, a ſort of courſe of the dogmatic and the polemic theology.

III. Both in private catechiſing, and in ſermons that are purpoſely intended to explain the catechiſm, the theologian ſhould avoid, as much as poſſible, the uſe of technical terms; or (which is ſtill better) he ought to begin by explaining thoſe terms, of which he ſhould give ſuch clear and determinate definitions, that no perſon of a moderate capacity can poſſibly miſtake them. In a word, he ſhould endeavour more to prove than to perſuade; and as eloquence ſometimes perſuades at the expence of truth, he ſhould cautiouſly avoid that ſort of deluſive perſuaſion, and in its room, ſubſtitute clear and ſolid argument.

IV. The catechumen ſhould not only be inſtructed in the tenets of his own religion, and the foundations on which they are built, but alſo in the dogmas of other religions, and the proofs that are brought to maintain them: for a ſubtle, deceitful and ſpecious book may fall into his hands; or he may be drawn into a diſpute with an able adverſary. It is neceſſary therefore, that he be provided with arms offenſive and defenſive, that he may be able ſucceſsfully to defend himſelf; and, if it may be, to convert his antagoniſt, and by that mean

promote the glory of truth and of religion. It is the part, therefore, of his p eceptor to teach him, faithfully, the principal tenets of other religions, and the arguments that are brought to defend them.

CHAP. IX.

Of Casuistic Theology.

I. HAPPILY for man, and for ſociety, all are not ſo obſtinate, or ſo inſenſible, as to aſk, *what ſort of animal conſcience is*, or never to know what is remorſe. Happily, the greateſt part of mankind are ſenſible, that all their actions are not conformable to the laws of divine wiſdom, nor to the rules of natural equity; a e afflicted at their paſt conduct, and find a generous and ea neſt deſire ariſe in their ſouls to avoid for the future thoſe dangerous rocks. To calm the troubled mind; to appeaſe the timorous conſcience; to communicate the conſolations of grace to the afflicted ſoul; to explain and decide in doubtful caſes; to direct thoſe that err, and to ſupport their weakneſs; to convince ſuch as perſiſt in their errors; to pierce the hardened heart; to intimidate the wicked, and to rouſe the indolent; to conduct the Chriſtians committed to the care of their paſtor, in the way that leads to true felicity; are the important objects of caſuiſtic theology, and for which it affords the proper inſtructions.

II. In a more confined ſenſe, by caſuiſtic theology is meant, the ſcience that decides in doubtful caſes of moral theology, and that calms the ſcruples of conſcience which ariſe in the Chriſtian's ſoul during his ſojourn in this world.

III. The ſtudies relative to theſe objects, which the theologian is ſuppoſed to have made, and the confidence that the common rank of Chriſtians place in their paſtors, afford them the means and the opportunities

portunities of rendering ſignal ſervice to thoſe of their fellow citizens who have need of their counſel and conſolation: for where there is one man of a philoſophic ſpirit, one Chriſtian of a well grounded knowledge in theology, there are in ſociety a thouſand that are not, and who are yet deſirous of being inſtructed, guided, comforted, eſtabliſhed. It is therefore both juſt and important, that he who devotes himſelf to the ſervice of the altar, ſhould early ſtudy all thoſe ſciences that will enable him worthily to perform this important part of his miniſtry.

IV. God forbid, however, that I ſhould countenance the abuſe that is made, in ſome Chriſtian countries, of the duties that I have here explained. To reduce theſe matters into a political ſyſtem; to make the direction of conſciences a profeſſion, a regular trade; to provide each houſe with a ſpiritual director, as with a butcher or baker, a ſteward or porter, who by that mean may inſinuate himſelf into the confidence of families, and become the depoſitory of all their ſecrets; may ſometimes ſow diſcord between huſband and wife, or the neareſt relations; who may avail himſelf of the confidence of his devotees to direct them conſtantly in matters of a worldly, and ſometimes even of a criminal nature; to efface the legitimate and ſacred authority of the father of a family, and, in its place, to ſubſtitute a foreign power; to undermine the confidence, the union and concord of families, in order to confirm and render neceſſary this ſecondary authority; to captivate the ſpirit, and oft times the heart of a wife or daughter, and in general of weak minds; to enjoin them ridiculous mummeries that lead to fanaticiſm, and a thouſand dangerous ſuperſtitions, or to religious exerciſes that divert them from their domeſtic duties; in a word, to aſſume an abſolute authority over the conſciences of mankind, is a pernicious invention, contrary to the evangelic moral, to the welfare of ſociety, to

the intereſt of the ſtate, and to the ſovereign authority; and well deſerves an exemplary puniſhment.

V. But the cure of ſouls, faithfully intended, and properly limited, differs totally from this deſpotic power. He, who is charged with it by a lawful vocation, ſhould remember that there are four claſſes of men with whom he will be engaged: 1. With thoſe of weak minds; of little knowledge, and little ability. 2. With thoſe whoſe ſpirits are afflicted by ſome great reverſe of fortune. 3. With thoſe of nice and timorous conſciences, who ſuffer by their ſcruples, whether they be vain or rational. 4. And laſtly, the wicked, the hardened and incorrigible ſinner. The grand art he e conſiſts in repreſenting to each of theſe claſſes of men, the truth, in a manner ſo clear ſo ſtrong and full, that they can no longer retain any doubts, that conviction muſt take place, and conſolation or converſion be the conſequence.

VI. Truth is in its nature highly problematic; each one, however is perſuaded that he knows it, that he poſſeſſes it, and is guided by it; every man thinks himſelf in the right. We ſhould therefore begin by diſcovering the truth in the ſubject before us, and in placing it upon a ſolid foundation. This buſineſs of demonſtrating the truth to others, is attended, in the mean time, with infinite difficulty. Every mind is not capable of diſcovering it at the firſt glance; nor can all diſcern it from the ſame point of view. Sometimes men require conviction by abſtract or philoſophical a guments, and ſometimes by the expreſs deciſions of the Holy Scripture. Sometimes by authority; ſometimes by gentle remonſtrance, and ſometimes by dreadful menaces. Sometimes they are to be reclaimed by properly expoſing the neceſſary and fatal conſequences that reſult from their conduct; and at others, by the alluring promiſes of the Goſpel. Now vice is to be boldly confronted; and now the tranſgreſſor is to be conducted into the right path by artful turnings; now the ſinner's crimes are to be painted in the

the ſtrongeſt colours; and now a veil is to be lightly caſt over them; and ſometimes we ſhould even indulge a favourite inclination, in order to induce them to abandon a more pernicious paſſion; and ſo of the reſt.

VII. As it is impoſſible that the books which have been wrote on this ſubject, though of an immenſe quantity, can contain every caſe that daily occurs in the miniſtry of the Goſpel; and as theſe caſes are not always juſtly decided by theſe authors; and if they were, the conſulting of ſuch enormous works would take up too much of a theologian's time, and divert him from his other ſtudies; and as theſe caſuiſtic writers contain, moreover, a number of puerile ſubtilties, and wretched chimeras; it is highly proper that the miniſter of the altar, whom we ſuppoſe to have a maſterly knowledge of the principles, the dogmas, and moral of the Chriſtian religion, ſhould endeavour to draw, from the true ſource, the means that he is to employ on each occurrence; and not have recourſe to books for their deciſions. For which purpoſe it is neceſſary. 1. That he accuſtom himſelf to reaſon according to the rules of ſound logic. 2. That he learn to know the human heart, under its different diſguiſes; the characters of men, their arts and ruling paſſions. 3. That he do not attempt to gain or convince by little pious frauds, or by lucky ſophiſms artfully repreſented. 4. That he do not inflict what are called penances, which are the height of abſurdity. 5. That he do not enjoin mummeries, pilgrimages, auſterities, and a thouſand like matters, which can never carry with them a real conviction, and only ſerve to divert men from their labours, and the duties of ſociety: But, 6 That he conſtantly preſent, as we have before ſaid, and cannot too often repeat, the truth in all its native force and purity.

VIII. This truth, however, is no enemy to ſacred eloquence; on the contrary, the latter ſerves to introduce the former into the mind of the audi-

tor, and there to give it ſuch ſtrong impreſſions, as neither time, the diſſipations of the world, nor the diſtractions of fortune, are able eaſily to efface. The whole miniſterial function conſiſts in teaching, preaching, adminiſtering the ſacraments of the church, viſiting the ſick, and the dying, comforting the afflicted, and affording the ſpiritual aids to all thoſe who have need of them. Eloquence is of the greateſt efficacy in all theſe functions, and without affecting it, the miniſter of the goſpel ſhould never neglect it. There are ſome profeſſors in univerſities who give their auditors a complete ſyſtematic courſe on paſtoral theology, which may be attended with many advantages.

CHAP. X.

Consistorial Prudence, or general Œconomy of the Church.

I. AMong the practical ſciences of theology, we muſt not paſs over in ſilence that which s called the Conſiſtorial or Eccleſiaſtic Prudence; whoſe object is the exterior order or arrangement of the Chriſtian church, on principles founded on the Holy Scriptures; and which are proper, not only to maintain religion in its purity and ſplendor, but to defend it againſt all ſchiſms, diſſenſions and ſeparations whatever. This œconomy is neceſſary in the councils, the ſynods, the conſiſtories, and in the faculties of theology. We muſt not, however, confound this with the eccleſiaſtic juriſprudence, which is the ſcience of interpreting and applying the laws, inſtituted by the ſovereign, relative to the perſons, goods, and affairs of the church; whereas the object of conſiſtorial prudence is the arrangement of the church itſelf, and the eccleſiaſtic ſtate, on Chriſtian and rational maxims.

maxims. The one is a ſort of legiſlation itſelf, and the other, on the contrary, an application of the civil laws.

II. The theological prudence includes therefore, firſt, the whole plan of church government, and the arrangement of the eccleſiaſtic ſtate; ſecondly, the ordinances relative to exterior ceremonies, and divine worſhip; and laſtly, the diſcipline of the church, the errors, the ſchiſms, the hereſies, and diſſenſions that a iſe among Chriſtians. The ſource of this prudence is a thorough knowledge of the eſſence of the Chriſtian religion, and the method of drawing from it juſt conſequences.

III. This diſcipline is likewiſe employed in deciding, wherein conſiſts the difference between the clergy and the laity; or if there be, in fact, any real difference between them: if the church form a diſtinct ſtate in the general ſyſtem of government; and to whom belongs the right of deciding *circa ſacra*; and what are the limits of the ſpiritual and temporal powers in this reſpect: wherein conſiſts the hierarchy of the church, and what are its rights and privileges: to whom appertains the nomination of a prieſt, or other eccleſiaſtic, according to the divine ordinance: to whom is committed the right of preaching in public, of adminiſtering the ſacraments, and of exerciſing the excommunicative power of expelling, or again admitting, any particular Chriſtian, or even a whole country, into the pale of the church: the bans and interdicts; the exerciſe of ſacred or theologic ſtudies; the ſchools, the ſeminaries, the univerſities, and academies, the claſſes, the convents, and ſo of the reſt: all ſubjects vigorouſly attacked and obſtinately defended.

IV. The conſiſtorial prudence examines likewiſe the liturgies, the ceremonies and religious cuſtoms, the breviaries, the canticles, and other books of devotion adopted by the church; the formularies, the ſubjects of diſcipline, &c. &c. the

creeds, the confeſſions of faith, the catechiſms, and many other like matters; and laſtly, the doubts and objects of controverſy, that occaſion the holding of ſynods and councils; the queſtion, if the Pope be above the councils, or the councils above the Pope; the practice of elenchtic theology, or the public elenchy; the ſeparation and reunion of the church, which the ſyncretiſts and Irenians diſpute; the divorces more or leſs allowable; matrimonial, and conſiſtorial matters, &c. &c.

V. All theſe ſubjects, and an infinity of others, which ariſe from, or have an immediate connexion with theſe, require to be thoroughly conſidered, reduced into a regular ſyſtem, explained and fixed on ſolid principles, and confirmed by juſt and pertinent examples. From all this reſults what is called Eccleſiaſtic Prudence. This ſcience has not yet been reduced into a ſyſtem, or formal diſcipline, and that principally becauſe it has been confounded with the eccleſiaſtic law: but that in reality differs as much from this, as political prudence differs from the common law.

CHAP. XI.

Of Theologic Prudence, in the different Functions of the Miniſtry.

I. Independent of caſuiſtical theology, of which we have treated in the ninth chapter, and of the œconomy of the church in general, which we have explained in the laſt, the theologian has, moreover, need of great ſagacity in the particular exerciſe of his miniſtry; and many able divines have reduced this ſcience into a ſyſtem, and have given general precepts, and particular rules, for the conduct of the miniſter of the altar, in the different

ferent circumſtances that may ariſe in this part of his duty. We ſhall decline the particular explanation of theſe different ſyſtems, as it would lead us into numberleſs *minutiæ*. *Conrad Porta* has wrote a work on the ſubject, intitled *Paſtorale Lutheri*; Stoltzelinus, Kortholt, Philip Hahn, Hartman, and many other theologians, have wrote large volumes concerning it; but, above all, the treatiſe of Dr *John Mayer*, which is called *Muſæum Miniſtri Eccleſiæ*, is to be conſulted on this matter. I the more readily omit the names and titles of other works of this kind, as I have preſcribed it to myſelf as a law, to avoid, as much as poſſible, theſe ſorts of citations, ſeeing that the number of new books, that are continually appearing frequently ſuperſede their predeceſſors; and moreover, in this part of theology, each Chriſtian communion has its particular authors, who treat it in conformity to the dogmas and principles which that communion adopts.

II. The humour of reducing every thing into ſyſtem, has alſo taken place in this matter, which, in fact, appears to have no occaſion for any peculiar diſcipline, that could not be included under ſome other part of theology. But as this diſtinction is already made, it is our buſineſs to explain it, for the uſe of ſuch as devote themſelves to the altar. The prudential theology is for them and their miniſtry, what political prudence is for a man of the world in the commerce of life. It is the art of attaining the end propoſed: and as each condition in life has its particular purſuits, the divines have alſo naturally theirs, and the precepts of theologic prudence ſerve to conduct them to it.

III. But as the dogmas, the ceremonies, the rites and objects, that the miniſters of the different Chriſtian communions propoſe to themſelves, are by no means the ſame, each communion, each ſect, does not follow, in this reſpect, the ſame rules and precepts, nor even part of the ſame principles. All that we can therefore do amidſt this diverſity

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creeds, the confeſſions of faith, the catechiſms, and many other like matters; and laſtly, the doubts and objects of controverſy, that occaſion the holding of ſynods and councils; the queſtion, if the Pope be above the councils, or the councils above the Pope; the practice of elenchtic theology, or the public elenchy; the ſeparation and reunion of the church, which the ſyncretiſts and Irenians diſpute; the divorces more or leſs allowable; matrimonial, and conſiſtorial matters, &c. &c.

V. All theſe ſubjects, and an infinity of others, which ariſe from, or have an immediate connexion with theſe, require to be thoroughly conſidered, reduced into a regular ſyſtem, explained and fixed on ſolid principles, and confirmed by juſt and pertinent examples. From all this reſults what is called Eccleſiaſtic Prudence. This ſcience has not yet been reduced into a ſyſtem, or formal diſcipline, and that principally becauſe it has been confounded with the eccleſiaſtic law: but that in reality differs as much from this, as political prudence differs from the common law.

CHAP. XI.

Of Theologic Prudence, in the different Functions of the Ministry.

I. INDEPENDENT of caſuiſtical theology, of which we have treated in the ninth chapter, and of the œconomy of the church in general, which we have explained in the laſt, the theologian has, moreover, need of great ſagacity in the particular exerciſe of his miniſtry; and many able divines have reduced this ſcience into a ſyſtem, and have given general precepts, and particular rules, for the conduct of the miniſter of the altar, in the different

ferent circumſtances that may ariſe in this part of his duty. We ſhall decline the particular explanation of theſe different ſyſtems, as it would lead us into numberleſs *minutiæ*. *Conrad Porta* has wrote a work on the ſubject, intitled *Paſtorale Lutheri*; Stoltzelinus, Kortholt, Philip Hahn, Hartman, and many other theologians, have wrote large volumes concerning it; but, above all, the treatiſe of Dr *John Mayer*, which is called *Muſæum Miniſtri Eccleſiæ*, is to be conſulted on this matter. I the more readily omit the names and titles of other works of this kind, as I have preſcribed it to myſelf as a law, to avoid, as much as poſſible, theſe ſorts of citations, ſeeing that the number of new books, that are continually appearing frequently ſuperſede their predeceſſors; and moreover, in this part of theology, each Chriſtian communion has its particular authors, who treat it in conformity to the dogmas and principles which that communion adopts.

II. The humour of reducing every thing into ſyſtem, has alſo taken place in this matter, which, in fact, appears to have no occaſion for any peculiar diſcipline, that could not be included under ſome other part of theology. But as this diſtinction is already made, it is our buſineſs to explain it, for the uſe of ſuch as devote themſelves to the altar. The prudential theology is for them and their miniſtry, what political prudence is for a man of the world in the commerce of life. It is the art of attaining the end propoſed: and as each condition in life has its particular purſuits, the divines have alſo naturally theirs, and the precepts of theologic prudence ſerve to conduct them to it.

III. But as the dogmas, the ceremonies, the rites and objects, that the miniſters of the different Chriſtian communions propoſe to themſelves, are by no means the ſame, each communion, each ſect, does not follow, in this reſpect, the ſame rules and precepts, nor even part of the ſame principles. All that we can therefore do amidſt this diverſity

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of opinions, and contrariety of maxims, is to point out, in a few words, the principal objects that one or other of them comprehend in this part of their paſtoral theology.

IV. The *Aſcetic Theology*, for inſtance, treats of the various particular exerciſes of piety; and the principles, that it propoſes with this regard, ſerve as guides to the miniſter of the altar, in his recommendation of the practice of it, as well as in many parts of his eccleſiaſtic duty. Faſts, pilgrimages, and many other matters of the ſame kind, belong to the province of aſcetic theology, and which we will not abſolutely reject, becauſe we write for readers of all ſorts of communions. Truth, however, obliges us to remark, that the aſcetic theology of every communion is the offspring of principles falſely attributed to the Goſpel, and belongs much more properly to ſuperſtition than religion. The monaſtic life, of which there is not the leaſt trace to be found in the holy ſcriptures, and which is ſo contrary to the wiſdom and goodneſs of God; the contemplative life which is employed merely in theoretic and barren ſpeculations, and which is a continual impediment to the practice of the duties of a citizen, and of the ſocial virtues; the corporal chaſtiſements that the pious viſionary inflicts on himſelf, and a thouſand like abſurdities, are the fruits of fanaticiſm, and the eſſence of aſcetic theology.

V. Under this head may be alſo included, confeſſion and abſolution, which are modern inventions, and of which there is not the leaſt veſtige to be found in the Goſpel, and which were unknown to Jeſus Chriſt and his apoſtles; unleſs we would torture and diſguiſe the text, and make a ſtrange abuſe of words, and of phraſes the moſt ſimple: inventions, in ſhort, that are more politic and lucrative than divine. Be that as it may, the aſcetic theology preſcribes general maxims relative to confeſſion and abſolution, and particular precepts for the prieſts of the confeſſional.

VI. The

VI. The *Paracletic Theology*, on the contrary, is totally employed in praparing conſolations againſt plagues and other public calamities and adverſities, and againſt the moſt conſiderable evils that befall individuals. It conſiders, examines, and directs theſe conſolations, and points out the proper method of applying them. As it is the buſineſs of aſcetic theology to humble and intimidate the Chriſtian, and to ſubject him to all ſorts of pious and painful bodily exerciſes, ſo it is that of paracletic theology to reanimate his courage and his faith, and to adminiſter conſolation to his ſoul.

VII. The five doctrines of which we have here treated, to wit, the Homilitic, Catechetic, and Caſuiſtic Theology, and the Conſiſtorial and Theologic prudence in the ordinary exerciſe of the miniſtry, form therefore what is called, in a collective ſenſe, *Paſtoral Theology*; a ſcience on which many authors, of all communions, have wrote vaſt treatiſes; in which complete courſes are made at Univerſities, by the faculties of theology; which is reduced into a regular ſyſtem; and which in fact, forms not one of the leaſt parts of that ſcience which is neceſſary to an able and faithful theologian who undertakes the cure of ſouls.

VIII. We think we have ſaid enough to give an idea of thoſe ſciences that compoſe the general ſyſtem of theology. We are not ignorant, however, that there are theologies eſtabliſhed in the ſchools, ſtill different in their genus and ſpecies: that they diſtinguiſh, for example, 1. The Theology of God, (Theologia Dei,) 2. That of Jeſus Chriſt, 3. That of the Holy Ghoſt, 4. That of Angels, and 5. That of men: that they again ſubdivide the Theology of God, 1. Into *Theologia Dei naturalis*, or *eſſentialis*, by which is ſhewn, that God perceives *ſimul et ſemel*, once and for ever, all that is contained in his eſſence, and 2. *Theologia Dei idealis* or *exemplaris*, which conſiders

ſiders thoſe things that muſt be revealed to mankind to work their ſalvation: this laſt article is again divided into *Archetypic Theology*, which teaches what comes, in this reſpect, immediately from God himſelf; and *Ectypic Theology*, which conſiders the theologic notions that man, as the image of God, is able to acquire by his own nature, that is, by the ability he has received from the Supreme Being, to know and adore him, and by the preaching of his divine word. But we ſhould never have done, were we to relate all the diſtinctions, diviſions, and ſubdiviſions, &c. that men, fond of ſyſtematic forms, have introduced into all the ſciences: diviſions whoſe whimſical denominations buſy and embarraſs the mind that ought to be more uſefully employed in attending to realities; and which conſtantly ſavour of that pedantry which inſinuates itſelf, more or leſs, into the ſtudy of every ſcience.

CHAP. XII.

Of Jurisprudence.

Jurisprudence is *the art of inſtituting juſt and uſeful laws, and of judiciouſly applying thoſe, that already ſubſiſt, to ſuch caſes as ariſe in civil life.* This definition, taken in its full extent, comprehends the idea that Tribonius gives at the beginning of the inſtitutes of Juſtinian, when he ſays, that it is *the knowledge of all things divine and human, and the ſcience of that which is juſt or unjuſt.* For, in fact, to make good laws relative to all the objects that are preſented to us by ſociety, we muſt be thoroughly acquainted with thoſe objects, that we may know what is uſeful to each one of them, and what juſtice may admit in its favour: to judge of

of ſuch caſes as may ariſe, we muſt be inſtructed in the laws that ſubſiſt in that ſociety; and to know if any action be juſt or unjuſt, we muſt examine if it confirm or contradict ſome one of theſe laws; if it be preciſely in that caſe which the law authoriſes or condemns; and this application is the moſt difficult, and perhaps the moſt eſſential part, of the whole ſcience of juriſprudence.

II. Juſtice is the conformity of an action to the laws; as injuſtice is a non-conformity of an action to the laws. Equity is the will or deſire to render to each one, or to each object, that which is due by virtue of the law of nature, or of laws poſitive.

III. "The laws (ſays M. de Monteſquieu, and "this definition appears to me excellent) are the "neceſſary relations that ariſe from the nature of "things; and in this ſenſe all beings have their "laws, &c. There is an original reaſon; there- "fore the *natural* laws are the relations that are "found between that and the different beings, and "the relations between theſe ſeveral beings them- "ſelves. Intelligent beings (by which is here meant "mankind) may have laws of their own making; "but there are others that they have not made: "before there were intelligent beings, they were "poſſible, there were therefore poſſible relations, "and conſequently poſſible laws. Before there were "laws made there were relations of poſſible juſtice. "To ſay that there is nothing juſt or unjuſt, but as "it is commanded or forbid by poſitive laws, is to "ſay, that before a circle was ever drawn, all dia- "meters of a circle were not equal." Behold the true and certain principle of natural law and equity.

"IV. Man, (continues M. Monteſquieu further on) "as *a corporeal being*, is, like other bodies, governed "by invariable laws; as an *intelligent being*, he in- "ceſſantly violates the laws that God has eſtabliſhed, "and defeats thoſe that he has made himſelf. "He muſt conduct himſelf, and yet he is *a limited* "being;

" *being*; he is ſubject to ignorance and error, like " all finite intelligences; the weak knowledge that " he has acquired, he again loſes; as a ſenſible " creature he becomes ſubject to a thouſand paſſions. " Such a being might at every inſtant forget its " Creator; God reminds him of his being by the " laws of religion. Such a being might at every " inſtant forget himſelf; philoſophy reminds him " of what he is by the laws of morality. Made " to live in ſociety, he might forget the reſt of " mankind; the legiſlature recalls him to his duty " by laws political and civil."

V. The ſtate of pure nature is a ſtate of peace. The ſtate of man in ſociety is a kind of ſtate of war. The idea of property in objects there enters neceſſarily and eſſentially. The acquiſition or the conſervation of each property gives riſe to this ſtate of war. When we conſider mankind as inhabitants of ſo great a planet, it is neceſſary that they be divided into different nations; there muſt therefore be laws in the relation that theſe nations have among themſelves; and theſe are what we call *the laws of nations*. Conſidered as living in a ſociety that muſt be maintained, there muſt be laws in the relation there is between the government and thoſe that are governed, and theſe make the *political* or *public law*: there are ſtill others in the relation that all the citizens have among themſelves, and theſe make *the civil law*.

VI. Poſitive laws therefore, the union of which forms the civil law, are, according to Puffendorf and reaſon, nothing elſe than *the ordinances of ſovereigns, by which they preſcribe to their ſubjects what they are to do or not to do*. Their object is, to procure the general good of ſociety, in obliging each particular citizen to act according to the rules of equity; and the force or efficacy of theſe civil laws conſiſts in the *penal ſanction* that accompanies them, that is, in the decreeing of pains to be inflicted on tranſgreſſors.

VII. Theſe

VII. Theſe conſiderations on the neceſſity, origin and nature of laws, being premiſed, it follows, that the ſtudy of juriſprudence, in its largeſt extent, comprehends:

1. The preparatory ſciences, and which are indiſpenſable to every man of letters. We ſhall explain theſe in treating of philoſophical matters, and in thoſe other places where each of them ought naturally to be found.
2. Legiſlative Juriſprudence. This draws its rules not only from law, and natural equity in determining that which is *juſt*, but alſo from policy, in diſcovering that which is *uſeful*, in the conſtruction of each law.
3. The Law of Nature.
4. The Law of Nations.
5. The Public or Political Law of each Nation, and, above all, of that ſtate where we would fix our reſidence, and employ our talents.
6. The Hiſtory of Legiſlation; which teaches the occaſion and origin of each law, and conſequently ſhews, if it be applicable to the preſent ſituation; and whether juſt and uſeful or not, by following the precept of the Apoſtle, *Try all things, and hold faſt that which is right.*
7. The Roman Law; which, in almoſt all modern Europe is now regarded as the foundation of juriſprudence in general; and which conſiſts of the inſtitutes, the digeſts or pandects, the code, and the novels.
8. The Germanic Law; which is uſed not only by the Germans, but by other nations, by whom many of them have been retained or borrowed.
9. The Saxon Law; which ſtill ſubſiſts in many countries.
10. The Civil Law, peculiar to each principal ſtate of Europe.
11. The Law of Cuſtom, or the eſtabliſhed practices that have acquired the force of a law in divers countries.

12. The

12. The Laws that conquering nations have eſtabliſhed in their colonies, eſpecially in the diſtant parts of the world, and in ſubjected countries, as the Code noir in America among the French colonies.

13. The Feudal Law, derived from the nature of fiefs, and the ſeveral reciprocal obligations between the lord and his vaſſals.

14. The Military Law.

15. The Mercantile Law, or the laws of commerce in general.

16. The Cambial Law, or the laws and cuſtoms of Exchange.

17. The Metallic Law, or the laws of mines and miners.

18. The Law of the Venery, or thoſe laws that relate to foreſts and the game.

19. The Canon Law, for the affairs eccleſiaſtic of the Roman Catholics.

20. The Eccleſiaſtic Law of Proteſtants, which is founded in part on the canon law.

21. The Municipal Laws of ſome large cities, or particular provinces.

22. The form of proceſs before the tribunal of the German Empire.

23. The Form of proceſs in general, according as it is received and eſtabliſhed in each country.

24. The practice or application of all theſe different laws to caſes that ariſe, which the lawyers alſo name *prudentia juridicalis*.

25. The Conſultatory Prudence, or the rules to be obſerved in the deciſion of difficult caſes, and in the advice that is aſked, by unſkilful perſons, of the men of the law.

26. The Marine Law.

27. The Criminal Law.

It is through this labyrinth of univerſal Juriſprudence, that we ſhall endeavour to guide thoſe who ſhall venture into it, by preſenting them with the thread of Ariadne, in a ſhort and cloſe analyſis, which we ſhall now make, of all the different

ferent parts of this equally vaſt and complicated ſcience.

CHAP. XIII.

Of Legislative Jurisprudence.

I. WHEN we conſider the enormous multitude of laws, ancient and modern, with which all Europe is deluged, we muſt naturally regard legiſlative juriſprudence, at this time, as a ſuperfluous and uſeleſs ſcience. But when we reflect on the nature and quality of theſe laws, when we weigh their value, and apply them to the ſituation of the people for whom they were made, we are tempted to think that it would be advantageous to the people, if their ſovereigns would take the ſalutary reſolution of aboliſhing, in one day, and at one ſtroke, all the laws that are now ſubſiſting in their reſpective ſtates, and ſubſtitute, at the ſame time, a new and complete code of laws. Not but that there are, among theſe ancient laws, ſome that are wiſe, juſt, and uſeful; but in thoſe grand undertakings, on which the happineſs of nations depends, we ſhould not be impeded in our operations by a trifling ſpirit of oeconomy, but ought at once totally to eradicate the evil; not to build on the ancient ruins, not to leave one ſtone upon another, but to erect an edifice entirely new; employing, however, all ſuch of the old materials as are good and worthy to enter into the conſtruction of a regular and ſolid fabric.

II. It is ſaid that the late king of Sardinia, Victor Amadeus, had conceived this great deſign, and that he employed ten years in that undertaking, aſſiſted by the moſt conſummate lawyers in his country, without being able to bring it to perfection. And in fact, of all the deſigns that the human mind can undertake, it is the greateſt, the moſt extenſive and

and difficult: we ſhould have a complete knowledge of the principles, the relations, and the intereſt of agriculture, and the whole rural oeconomy, of commerce, of navigation, of manufactures, of arts uſeful and agreeable, and of all that can enter into a political ſyſtem; in a word, of every poſſible ſubject, in order to determine on ſuch laws as may be to them *convenient*, and in themſelves *perfect*, each one in its kind. Here we may ſay with Lucretius, *Felix qui potuit rerum cognoſcere cauſas!* This univerſal knowledge of all ſubjects and their origin, this ſovereign perfection in the determination of the laws that we would preſcribe, appears to be the prerogative of the Supreme Being alone. Men, as finite beings, muſt be conſtantly ſubject to ignorance and error; it is their duty, however, to make all poſſible uſe of that portion of light which God has given them, and to their utmoſt, to endeavour after that perfection, by taking, for their guide and model, the laws that divine wiſdom has diſplayed to them, in the arrangement of every particular part of nature, and in the whole ſyſtem of the univerſe.

III. *Simplicity*, in the firſt place, is one of the greateſt perfections in nature; all compound ſubjects are more or leſs imperfect in proportion to their degrees of compoſition. Laws therefore, ſhould be ſimple in their principle, and copious, not to ſay univerſal, in their effects; that is to ſay, applicable to all parallel caſes: exceptions are always imperfections in a law, and which we ſhould take care how we expoſe, much leſs point out, in the practice of that law. The law of England, that forbids foreign navigators to import into that iſland, any merchandiſe that is not of the growth of their country, is quite ſimple in its principle, and boundleſs in its effects; it may therefore be called perfect, although it be attended with ſome trifling inconveniencies, which a legiſlature muſt deſpiſe. The laws of the ſame nation for the encouragement of agriculture; thoſe that prohibit the exportation

of

wool, and many others, are of the ſame kind. The Roman laws, on the contrary, are too ſpecific, too refined, too complicate, and abound in ſubtilties, and are conſequently ridiculous: they are, in fact, rather ſnares that chicanery has laid for mankind, than laws.

IV. *Perſpicuity* is a ſecond perfection and an eſſential quality in laws. In moſt countries of Europe they follow, more or leſs, the analogy of the Roman law, and this law is all wrote in Latin. The *Corpus juris* has not, that I have ever learnt, been tranſlated into any living language, and yet theſe Roman laws are the baſis of modern juriſprudence; they are to be the rules of conduct for all ſubjects, for all thoſe unlettered citizens who underſtand them not, and whoſe number is ſo exceſſive in compariſon of that ſmall handful of men who do underſtand them, and who act like adepts, in covering their ſecret with an impenetral le veil, that they may make gold at the expence of the public. The ſtyle of laws, therefore, ſhould be ſimple, conciſe, clear, without equivocation, without uſeleſs ornament, and adapted to the underſtanding of the meaneſt inhabitant.

V. The reaſons for which laws are made ſhould never be annexed to them: the people ſhould be taught to rely on the wiſdom of him or them to whom they have aſſigned the legiſlative power: it is repugnant to their dignity to detail to the public the motives of their conduct in every particular; and the ſubmitting of theſe reaſons to the examination or critique of the people, or commentators, or other like reaſoners, ſerves only to enervate the law itſelf, and gives riſe to a thouſand falſe interpretations and chicaneries without number *.

* The whole of this ſection is ſo different from that ſpirit of Liberty, which our auth r conſtantly manifeſts on other occaſions, that if he had not expreſſed himſelf quite clearly, we ſhould have ſuſpected that we had miſtaken his meaning. Are not the people then, for whoſe uſe laws are inſtituted, to judge

of

VI. *The leaſt number poſſible*, of laws, is likewiſe a perfection, as their multitude is the greateſt of imperfections. We might engage to reduce, into one good quarto volume, all the laws fundamental and eſſential to a ſtate. Each father of a family might purchaſe, at a ſmall expence, a copy of this code; read it in his own language, teach it to his children, and make it the guide of his actions, as well as of thoſe of his family. Whereas it is impoſſible for a man employed in other labours, and ſubject to the other duties of ſociety, to apply himſelf to the ſtudy of ſo enormous a compilation of laws and ordinances; which however are to be the rules of his conduct, unleſs he is contented to fall into guilt, or unleſs the ſtate is deſirous of the loſs, or deſtruction of one of its members. Wonderful utility this of pains and penalties!

VII. The greateſt part of the divine laws relate to religious duties, or to objects that affect the conſciences of men; or they form the rules of morality. In the regular courſe, the obſervance of theſe is left to the virtue and conſcience of each individual. In the conſtruction of civil laws, however, good care ſhould be taken not to ordain or eſtabliſh any thing that is really repugnant to the revealed law of God; for whatever contradicts that which has proceeded from ſupreme wiſdom muſt be folly, and in reality, no ſubject can be bound to obey a law that is repugnant to what the Almighty has decreed.

VIII. It is not the ſame with regard to natural equity, whoſe laws are equallydivine, but which God has engraved on the heart of every individual of the whole family of mankind: theſe muſt of neceſſity have the force of civil inſtitutes, and the legiſlature ought not only to regard them as the

of the utility of thoſe laws? Perhaps there are here ſome words omitted in the original, and it ſhould be, '*Under an arbitrary* '*form of government*, the reaſons for which laws are made, &c. The preamble to a Britiſh act of parliament conſtantly recites the reaſon of its inſtitution.

firſt

firſt of its laws, but ſhould ſupport them with the authority of its tribunals, by laying a ſtrong hand, ſo to ſpeak, on their tranſgreſſors. For all the rules that are preſcribed to tribunals, relative to their judgments, are in fact ſo many laws, and conſequently the law of nature, and the law of cuſtom ought to have the force of the written law: and as the law of nature is even ſuperior to the human legiſlature, it ought, in every ſenſe, to be reſpected by it: it may abrogate all other laws and cuſtoms, but the law of nature it can never alter, but muſt regard as the ſource and baſis of every other law.

IX. A wiſe and ſolid policy forms the ſecond ſource, from whence the legiſlature ſhould draw the rules that it would preſcribe: for as that teaches what it is that conſtitutes a good government, and what is uſeful to a ſtate, the materials of good laws are there to be found all ready prepared and digeſted. For what relates to this article, I ſhall refer the reader to my political inſtitutes, not from ſelf-love, or that I think they contain any thing marvellous, but becauſe I have there ſaid all that I know of this matter, and I could not treat of it here, without falling into repetitions.

X. The philoſophers by profeſſion, as well as the rhetors, pretend that morality, reduced into a ſyſtem, is very eſſential to politics in general, and to the conſtruction of laws in particular. Notwithſtanding their authority, I find this difficult to believe, becauſe the greateſt part of thoſe ſubjects that belong to morality, ought not to fall under the empire of the laws; and becauſe, in general, I am no great admirer of ſyſtematic morality, as it is repreſented in books, or taught in the ſchools. I have known, indeed, men ſufficiently prejudiced in favour of ſovereign authority, of ſouls ſufficiently baſe, ſlaves enough to maintain, that the moral actions of men, their vices and virtues, might be very well made ſubject to the civil laws. Such principles as theſe are horrible. This would be

be to deprive mankind of that ſmall portion of natural liberty, which the moſt extravagant deſpotiſm has ſtill left them; it would be to take from them the means of being virtuous, and there would no longer be any merit in not being vicious; it would be to open the door to tyranny, and to expoſe the beſt of men to perpetual vexations. What? ſhall the tribunals puniſh a man becauſe they think him not ſufficiently grateful, liberal, or beneficent? Away with all ſuch ſort of maxims.

XI. Hiſtory furniſhes a better ſource for legiſlation: we there find not only the occaſion of laws, but alſo the effects that they have produced. They are ſo many examples to be imitated or avoided. But we muſt ſtudy the good hiſtorians, and without ſtopping at the deſcriptions of battles, and the details of wars and maſſacres, carefully attend to every thing that, in the hands of a man of ability, may become truly uſeful to mankind.

XII. The ſtudy of poſitive inſtitutes, whether public or civil, is, in the laſt place, an admirable ſource for the conſtructing of laws: but we ſhould here uſe the greateſt circumſpection. We have already ſaid, that the Roman law, the German law, the law of the Lombards, the Saxon law, and all the other different inſtitutes of the different nations of the earth, contain an innumerable number of laws on all ſorts of ſubjects, and even on the moſt minute particulars. But this is an ocean on which we ſhould not ſail, without keeping the ſounding lead continually in hand. M. Monteſquieu ſays, with a great deal of reaſon, *That laws ought to be ſo properly adapted to the people for whom they are made, that it muſt be by very great chance, that thoſe of one nation can be convenient for another.* In fact, the greateſt part of the ancient laws, and thoſe of the Romans in particular, are but little applicable to the ſituation of modern Europe; and it would be to entertain too great a diffidence of our own abilities, to think ourſelves incapable of framing proper laws for a country, with which

we

we are well acquainted, without the aſſiſtance of thoſe ancient guides: for it is in general the human reaſon that governs, and ought to govern mankind over all the earth; and laws are nothing elſe than the application of this reaſon to all particular circumſtances.

XIII. I would laſtly adviſe all thoſe, who apply themſelves to legiſlative juriſprudence, to ſtudy the treatiſe of M. de Monteſquieu on the ſpirit of laws. They will there find the moſt intimate, the moſt ſignificant, and to the generality of mankind, frequently the moſt uncommon relations of all things poſſible, together with the laws that have been, or may be made, relative to them. I do not deny, that this illuſtrious author has ſometimes eſtabliſhed arbitrary, not to ſay, falſe principles; but his book, notwithſtanding ſmall errors, enlarges the mind, and extends the ſphere of human knowledge, eſpecially that which ariſes from reflection. It is an ineſtimable treaſure, a blazing torch in the hands of a man of genius, but, to a weak mind, an ignis fatuus, that leads to a precipice.

XIV. The tribunals give effect, force, and life to the laws; it is an eſſential part of legiſlation, therefore, to ſee that they be eſtabliſhed on a wiſe and ſolid foundation.

XV. Time, in its courſe, produces a continued ſeries of events; theſe events change the face of the world, and theſe changes alter the ſituations and intereſts of nations. We muſt not therefore imagine, that it is poſſible to form *immutable laws*, ſuch as can be conſtantly uſeful to a people to the end of time. It belongs therefore to legiſlation alone to be permanent, and to that ſovereign authority to abrogate the laws as they become defective, and to ſupply their place with others agreeable to the actual ſtate of the people: and thus the code, once inſtituted, muſt be continually renewed as the ſituation of affairs ſhall require.

XVI. The power, that makes the laws, has the ſole right to interpret them. The legiſlature, therefore, ſhould not permit individuals, however learned to comment, interpret, and amplify its inſtitutes; for ſuch comments, by their diverſities, ſerve only to cauſe ambiguity in the laws, to give riſe to endleſs conteſtation, and to render that doubtful, which ought to be preciſely determinate.

CHAP. XIV.

Of the Public or Political Law.

I. IN the moſt extenſive ſenſe, the public or political law comprehends (according to the idea we have given, Chap. XII. Sect. 5.) *the reciprocal duties between the governors and governed*; that is, from ſovereigns toward their ſubjects, and from ſubjects toward their ſovereigns, and toward the ſtate of which they are members. Each ſtate, each people, each nation, has therefore its public law; the ſtudy of which becomes the more extenſive, and the more difficult, in proportion as the form of government, is more complicate. The public law, or conſtitution of England, for example, which determines the rights and prerogatives of the king, the parliament, and the people, forms a very extenſive ſcience. In France, where the princes of the blood, the peers, the parliaments, the biſhops, the clergy, &c. equally enjoy many ancient rights and privileges, the public law of that nation is equally complicate, and requires a very attentive ſtudy. The nature of this work will not admit of our entering into a minute explication of each particular political law: we ſhall endeavour, however, to give an analytical abridgment of the public law, or conſtitution of Germany, which, being of all others the moſt

moſt complicate, may ſerve as an example or model for the method of treating all the reſt.

II. When we would apply ourſelves to the ſtudy of the public Germanic law, we ſhould previouſly examine a very material queſtion, which, though it may at firſt appear quite pedantic, is nevertheleſs very far from being frivolous. The intention of it is to diſpel that dark cloud which covers the ancient hiſtory of Germany.

1. Whether there were anciently in Germany ſeveral bodies of people; if each of theſe bodies had its chief or chiefs; if theſe people were obliged to ſubmit to the yoke of Charlemagne, to whom they yielded, either by force or voluntarily, the right of reigning over them; if, after the extinction of the Carlovinian houſe, theſe people and their chiefs reaſſumed their rights, by virtue of *poſtliminy*; and whether in that caſe it be not apparent that they have ceded to the Emperors, elected after the death of the laſt Carlovinian princes, as to Conrade of Franconia, Henry the Fowler, &c. *the leaſt part* of their power, rights, or authority that they could? Or,

2. Whether there were not anciently dukes, princes or chiefs, of divers people of Germany; if theſe dukes, margraves, and other German princes, were originally generals, miniſters, governors, and all domeſtics of Charlemagne and his deſcendants; and if theſe domeſtics rendered themſelves formidable in their poſts and their provinces; if they made ſucceſſively conſiderable acquiſitions in lands, to that degree, that in the end they threw off the yoke, and erected themſelves into ſovereigns? In which caſe we ought to regard them as a ſort of uſurpers, and it is to be preſumed, that the Emperors would not have ceded to them their authority and their rights, but that they were unable to deprive them of it without riſk.

This important queſtion throws very great light, not only on the nature of the conſtitution, and the government of Germany, but on all thoſe caſes

where preſumption and probability for or againſt the rights of the emperors, or the princes of Germany, are to decide ſome conteſtation that is not clearly expreſſed in the written law.

III. From what is here ſaid, it is ſufficiently apparent, that the public law, or conſtitution, ariſes from the laws and conventions that have been made to regulate the form of each government; and, conſequently, that the ſcience of public or political law is drawn, 1. From hiſtory, which teaches the origin of ſtates, and the occaſions of laws and conventions: 2. From policy, which ſhews the motives, the inconveniences, and the remedies of laws: 3. From the civil law, as it ſhews what is juſt or unjuſt in particular caſes, and the manner of applying thoſe caſes to the laws; and 4. From the law of nature and nations. Public juriſprudence conſiſts, therefore, in the knowledge of the political laws, and the art of applying them to the affairs of the ſtate; and the moſt ſimple method of acquiring it is, to inſtruct ourſelves in the written inſtitutes of Germany, in the laws of the empire themſelves, and in the cuſtomary law, by authentic documents.

IV. With regard to the method that we ſhall propoſe to attain this end, as it relates to the public law of Germany, we ſhall endeavour to examine, in the firſt place, the principles on which this law is founded; that is to ſay, the fundamental laws of the empire; ſecondly, the origin of the Roman empire; in the third place, its limits; fourthly, the form of government, and the ſovereign power in the empire; and laſtly, the rights of the ſtates, and members of the empire, and the connexion they have with each other with regard to the republic in general.

V. The fundamental laws of the empire are either *written*, or eſtabliſhed by *cuſtom*. The firſt are properly conventions made between the emperor and the ſtates, to regulate the form of the republic, or the manner in which it ſhould be governed, either

ther in whole or in part. Among theſe are reckoned, in the firſt place, the *receſſions of the empire*, ſo far as they regard the public ſtate; and by theſe are meant a collection of the deliberations of a diet: for as theſe aſſemblies were not conſtantly held, they collected, at the end of each diet, all the reſolutions that they had made, and digeſted them into one written form, which they called *Receſſus Imperii*, from the Latin word *recedere*, becauſe they were publiſhed when the diet was on the point of ſeparation: Since that aſſembly has been conſtantly held at Ratiſbon, the *decrees of the diet* have taken the place of the receſſions, and of theſe there are very ample collections. The emperor, or in his place the king of the Romans, or elſe the vicars of the empire, on one hand, and on the other, all the ſtates of the empire united, have given to theſe receſſions, and decrees of the diet, the authority and force of fundamental laws.

VI. The famous *Golden Bull* is the firſt law of the empire: it was given by Charles IV. in the year 1356, and takes its name from the golden ſeal of the emperor that is annexed to it. It is confirmed, namely and ſpecifically, in all the imperial capitulations or agreements. The authentic original, wrote in Latin, is kept at Francfort on the Main, the city that is deſtined for the election and coronation of the heads of the empire. It contains many chapters on the public law or conſtitution, the rules for electing and crowning the emperors, the rights and prerogatives of the electors, the order and rank of the imperial court, the arch offices of the empire, and the functions of thoſe that are inveſted with them, &c. It is to be met with in all the collections.

VII. Germany was anciently deſolated by the ravages of private wars: each member of the empire, great or ſmall, had the right of attacking his neighbour, and of compelling him to juſtice, ſword in hand, with the aid of his vaſſals, or his lord, his friends or his ſubjects, after making ſome decla-

rations and ridiculous ceremonies, as by ſending his enemy a mangy dog, or ſomething of the like kind. This ſtate of violence and confuſion could only ſubſiſt while the Germans were in their manners ſavages; but when they began to civilize, the ſtates, and all the nations of Germany were united by a more gentle, and more rational bond. It was Maximilian I. who performed this great work, and publiſhed, in 1495, at the diet of Worms, *The conſtitution of public and perpetual peace.* This act not only aboliſhed the licence of particular wars, but alſo founded the chamber of Imperial juſtice *, as a ſupreme tribunal, where all particular quarrels ſhould be ultimately decided by the laws of equity. At the ſame time, Germany was divided into circles, and each circle had its director and other chief officers. It is from this period that we are to date the true form of the Germanic government: for it was not till then that the Germans became a civilized people. This conſtitution of public peace has been alſo confirmed by the peace of Weſtphalia, and by all the imperial capitulations.

VIII. The reformation gave riſe to diſputes, quarrels and wars in Germany. *The convention of Paſſau*, made in 1552, began to ſilence them; and the peace of Augſbourg, concluded 1555, put an end to them entirely. It is known by the name of the *Religious Peace*, and has been confirmed by all the public acts. The principal articles are, that an entire liberty and ſecurity, with regard to exterior and interior worſhip, be granted to electors, princes, and imperial towns, and to the immediate nobles of the empire, who follow the confeſſion of Augſbourg, as well as to the Roman Catholics; that the three parties would never make uſe of violence; that all other ſects be excluded from this peace; that the eccleſiaſtic juriſdiction of the pope, the biſhops, &c. over the Proteſtants remain ſuſ-

* Now held at Wetzlar.

pended;

pended; that the eccleſiaſtic goods which were then in the hands of the Proteſtants ſhould reſt there; that no perſon ſhould be ſeduced, either by force or artifice, to change his religion; that emigration ſhould be permitted to ſubjects who were deſirous of retiring from their country on account of religion; and that they who acted contrary to theſe laws, ſhould be puniſhed by the ban of the empire.

IX. Wiſe and wholeſome as theſe laws were, the change of times, and the inceſſantly reſtleſs ſpirit of mankind, have rendered their multiplication neceſſary; the electors have therefore made a new capitulation with each emperor; to which thoſe monarchs have bound themſelves by oath, after their election, and before their coronation. We find the traces of them even under the Carlovinian emperors; but the firſt formal capitulation was made on the acceſſion of Charles V. to the imperial throne. It was then reduced into chapters, which they called in low Latin *Capitula*, from whence came the word *Capitulation:* they contained the rules that the emperor promiſed to obſerve in the adminiſtration and government of the empire. We find all the ſubſequent capitulations, down to our own days, in the divers collections of the acts of the empire. It has been ſeveral times intended to form a perpetual capitulation; but this project, propoſed by the princes, is a chimera, ſeeing that the continual changes require continual new precautions, and new clauſes; it is ridiculous, moreover, to think of making laws that ſhall be immutable: this project therefore has been conſtantly rejected, and the electors have maintained themſelves in their right and privileges.

X. The eccleſiaſtic ſtate has alſo its conſtitution in Germany. Beſide the diſpoſitions of the ancient councils, the decrees of the council of Conſtance, and the Concordats that were eſtabliſhed between the holy ſee and the German nation, have in particular acquired the force of laws. It muſt

be, however obſerved as an invariable rule, *that in Germany the authority of the councils becomes void, whenever they are contradicted by the laws of the empire.* The authority of national and provincial councils is here alſo acknowledged, as well as ſeveral particular conſtitutions; as the tranſaction between the emperor Henry V. and pope Calliſt II. on the ſubject of biſhops; the convention between Frederic III. and Nicholas V. which are called by way of excellence, the concordats of the Germanic nation, &c. The proteſtants have not only been declared free from theſe concordats, by the peace of Weſtphalia, but they have likewiſe adviſed the emperor to aboliſh them as they relate to the catholics, to give liberty to the German church, and to follow the decrees of the council of Baſil.

XI. The peace of Weſtphalia is alſo a fundamental law of the empire, and perhaps the principal of all its laws, ſeeing that it regulates the ſtate of Germany. Its tenor was fixed by a double inſtrument, one part made at Munſter with France, and the other at Oſnabrug with Sweden. The peace of Nimeguen concluded between the Emperor and France in 1679, that of Ryſwick in 1697, that of Baden in 1714, that of Vienna in 1725, and likewiſe thoſe of the Pyrennees and Aix la Chapelle, &c. have all acquired the force of laws, ſo far as they relate to the ſtate, to the affairs and intereſts of the holy empire. They are to be found in the acts and public memoirs in the diplomatic corps, and elſewhere; and their validity is to be determined by the analogy of the public law, and by conſidering the diverſity of times, and the circumſtances in which Germany then was.

XII. Beſide all theſe written laws, the empire is likewiſe governed by cuſtom, which is a repetition of actions homogene and uniform. The ancient Germans wrote little and did much. They had recourſe to their memories; their uſage became laws; and cuſtom preſerved its obligatory force, by

by the tacit conſent of the emperor, and the ſtates of the empire. Cuſtom takes place not only with regard to the affairs of the ſtate, but alſo as it relates to the manner of executing them; as in the election of emperors, in the functions of arch officers, in the appointing of ambaſſadors, in proceſſions, in the *relations and correlations of the diet*, in the ſtyle of the chancery, &c. and it is aboliſhed, either by written laws, or by contrary and more recent uſages. In litigated cauſes, it muſt be proved, either by the archives, by witneſſes, by authentic documents, or by others proofs of a ſimilar nature.

XIII. We have already ſaid (ſect. 3) that the public law, or conſtitution, is alſo founded on the principles of the law of nature and nations; on the Roman law, where the domeſtic laws fail, and it is applicable to the ſtate of Germany; on the canon law, under the ſame reſtrictions; on the feodal laws of the Lombards; collections of the cuſtoms of the Lombards; the conſtitutions of kings and emperors, Francs and Germans; and the ancient feodal cuſtoms of the Germans themſelves; on the ancient German laws; on the laws of Suabia, Saxony, &c. But it is to be obſerved, that all theſe laws are not adopted but in default *(in ſubſidium et ſupplementum)* of poſitive laws of the empire; and that where the latter ſpeak, the former are ſilent.

XIV. After having thus examined the fundamental laws of the empire, the public law explains to us the *limits* of its *territory* as well ancient as modern, *the poſſeſſions that it is expedient for it to maintain, and the loſſes that it ſhould endeavour to repair.* With regard to the latter article it is an immutable principle of the Germanic conſtitution, *that the Empire conſerves an eternal right over all theſe countries which have ever appertained to it by a legitimate title, unleſs their alienation has been made by juſt means, and conformable to univerſal laws.*

Now, the Holy Roman Empire has been compoſed of Germany, a part of Italy, of the kingdom of Bourgogne, and that of Lorraine and Arles. Its power was then extremely formidable; but time and fortune have introduced great changes. The doctrine of public law has recourſe to hiſtory, to the archives, the ancient charters and documents, and the diplomatic art, to diſcover the origin of all theſe unions and acquiſitions; to determine the provinces, towns or territories of each of thoſe countries that made a part of the Empire; what were their different titles, what has been taken away, and what yet remains; and what are the exact limits of the countries that yet are in connexion with it. All theſe matters are ſubject to profound reſearches; and to have a complete knowledge of the public law, it is neceſſary to be extremely well verſed in the German hiſtory, and thoroughly acquainted with the ſources they call *Scriptores rerum Germanicarum.*

XV. The diviſion of the German Empire forms alſo an object of the public law. This diviſion has been likewiſe ſubject to divers changes. The provinces, that anciently belonged to Germany, were Bavaria, Suabia, Saxony, Moravia, and the lands occupied by the Slavi, the Vandalia or the March, Franconia, and the provinces on the Rhine. Pedantiſm has added to theſe ſtill other diviſions: and laſtly, the Empire has been divided into circles. The emperor Maximilian I. made the firſt diviſion of this kind, in 1500, at the diet of Augſbourg, and divided it into the circles, 1. of Franconia, 2. Bavaria, 3. Suabia, 4. the Rhine, 5. Weſtphalia, and 6. Saxony. This firſt inſtitute was enlarged by the diet of Cologne in 1512, and then was eſtabliſhed, 7 the circle of Auſtria: and laſtly, were added, 8. the circle of Bourgogne, 9 the Electoral circle, or that of the Lower Rhine, and 10. that of upper Saxony. The public law ſhows the different territories that make part of each

each circle; who are their directors, codirectors, colonels, assistants, secretaries, receivers, and masters of the mint; what are their rights, their functions, prerogatives, offices, and privileges, at the general diet of the empire, and at the particular diets of the circles; and so of the rest.

XVI. When we have attained a full and precise idea of the territory of the empire, and its limits, we pass to the examen of its form of government: and here the lovers of systematics find themselves greatly embarrassed. Some of them regard it as a monarchial state, and the emperor as a monarch that has powerful vassals whom he governs according to established laws: and they found their opinion on the respectful expressions that are contained in the Golden Bull; in the treaty of the peace of Westphalia, and in other fundamental laws of the empire; on the ceremonial used at the election and coronation of the emperor; on the functions and respects that the electors and other states of the empire are obliged to render him; on a prejudice arising from certain acts of authority, which emperors, of themselves very powerful, have sometimes abusively exercised toward some members of the empire; and on many similar considerations. Others, who run into the opposite extreme, describe the empire as a republic, free and independent, and of which the electors and other states are the chiefs, who elect from among themselves a kind of doge, who is merely the image of authority, reserving to themselves the right of governing this strange machine by their deputies in the general assembly of the diet, and in the tribunals of the empire. And the advocates for this opinion have likewise their arguments and authorities. Neither one or other of these ideas, however appear to be just; and there are are not wanting men of ability, who, paying little respect to names, to definitions and systems, regard these matters as their nature represents them, and consider the German empire, in the state it now is, as an association of several sovereigns,

vereigns, great and ſmall. weak and powerful, who unite their reſpective forces to conſtitute one more formidable power; who adopt old, or inſtitute new laws, by the mean of a permanent aſſembly or diet, for the order and maintenance of the ſaid aſſociation; who chooſe one common chief to give more luſtre to their body, and more authority to their laws; who pay him reſpects, of which the honour is reflected on themſelves; who preſcribe the rules of his government; who eſtabliſh the tribunals for the adminiſtration of juſtice; who charge their chief with the execution of laws and ſentences pronounced by theſe tribunals; and who, laſtly, regard him as the firſt ſovereign in rank among his equals in authority. I believe that they who ſhall attentively conſider the actual ſituation of affairs in the preſent ſyſtem of Europe, who ſhall reflect, that among the members of the empire, there are found a king of Great Britain, a king of Pruſſia, a king of Hungary and Bohemia, a king of Sweden, a great duke of Ruſſia, and ſo many other powerful princes, will agree, that the draught here given is delineated from nature.

XVII. When we have formed a juſt idea of the ſyſtem of government of the empire, we paſs to examination of the rights and prerogatives that reſult from it, as well with regard to its chief as its members: and we inform ourſelves of what the laws decree relative to the election of the emperor; of his coronation, and of that of the king of the Romans; of the titles of majeſty and marks of dignity that appertain to the emperor; of the prerogatives of a king of the Romans, elected during the life of an emperor; of what relates to the emp eſs and the queen of the Romans; of the formation and arrangement of the imperial court; of the arch officers of the holy empire, and of thoſe which are called *Officia Palatina*, or functions of the imperial court; of the rank of the vicars of the empire during

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ing the vacancy of the imperial throne; and of all other matters relative to theſe objects: and which altogether afford a ſtudy highly intricate and multifarious.

XVIII. This ſtudy leads to the conſideration of the ſtates of the empire, their rights, privileges, &c. We have already ſhewn that the component parts of the ſovereign power in Germany are temperated by each other. In order, therefore, to give a juſt idea of the true character and origin of all that concurs in the general government, we may ſay, that *a ſtate of the empire is a citizen who is an* IMMEDIATE *member of the empire, and has a voice and ſeat in the diet.* The word *immediate* ſuppoſes that this member is in poſſeſſion of lands that are held immediately of the empire. The exceptions to this rule, and the examples to the contrary, are abuſes that cannot change the nature of the inſtitute. Their characteriſtic conſiſts abſolutely in the right of a ſuffrage in the aſſembly of the diet. This right, which in the moſt ancient times was perſonal, is now become real, and annexed to the territory of which the perſon is in poſſeſſion. The next thing to be inquired into is, what are the rights, prerogatives and dignities of the college of electors in general, and of each of them in particular: thoſe of the eccleſiaſtic princes, the archbiſhops, biſhops, ſuffragans, metropolitans, abbots, and other eccleſiaſtics of the holy empire: that of the ſecular princes, their primitive offices, their dignities and privileges, the origin of their title, and that of the counts of the empire: inquiry is then to be made into the plan and ſyſtem of the college of princes, the rank and place that each prince there holds; and here it is to be remarked, that each prince has in this college a particular voice *, whereas the counts (who are divided into

* Which they call VIRITIM VOTARE, whereas the counts vote only CURIATIM.

thoſe of Suabia, Wetteraw, Franconia and Weſtphalia) have only one collective voice, that is, the four benches have each one voice only: laſtly, a reſearch is to be made into the rights and privileges of the nobles who are *immediates*, and of the free cities of the empire, which are divided into two claſſes, thoſe of the Rhine, and thoſe of Suabia, and who have equally two collective voices.

XIX. We then enter into a much larger detail, and examine the ſeveral parts of the ſovereign power in Germany, to wit, the eccleſiaſtic power, and the liberties of the Germanic Church with regard to the Holy See and the court of Rome: the juriſdiction of the empire, its general police, the arrangement of its monies, its public offices, &c. the domains of the empire, its finances, its revenues, its impoſts, its *matricule*, the receipt of contributions, &c. the regal rights of the empire, as thoſe of war and peace, of treaties and alliances, of embaſſies and ambaſſadors, &c. ſo far as theſe objects relate to the empire in general. On this occaſion, inquiry is likewiſe made into the number and condition of the troops of the empire, and what each circle is obliged to furniſh for its contingent; the ſtate of the imperial fortreſſes, &c.

XX. The ſubjects that next follow, according to this order of ſtudy, are the examen of the general diet of the empire, the origin of this diet, its ancient ſtate, its various changes, and actual arrangement: the rights and privileges of the imperial commiſſaries, of ambaſſadors, legates, and deputies of the ſtates, &c. the manner of conducting their deliberations, that of collecting the voices, the form of the reſultats *, and ſo of the reſt. Next follows the examination of the two ſuperior tribunals of the empire, which are the imperial chamber of juſtice eſtabliſhed at Wetzlar, and the aulic

* By which is meant the evangelical corps; what are its rights and prerogatives, its conſtitution, and the method of its aſſembling and acting.

council

council at Vienna; their functions, their authority, their principles and rights; and laſtly, the imperial tribunal of Rothweil, and thoſe which yet ſubſiſt with an inferior authority in Suabia and Franconia. The ambiguous article of the rights and prerogative particularly reſerved to the emperor, and which are called *Jura reſervata Imperatoris*, terminates this buſineſs.

XXI. It will be likewiſe proper to know certain particularities eſſential to the public law, and to determine *what is the ſovereign authority that each immediate member of the empire has a right to exerciſe in his reſpective ſtates and territories*, as well with regard to religion and affairs eccleſiaſtic, as to thoſe that are civil and political, ſuch as relate to juriſdiction, domains, revenues, war, peace, treaties, alliances and legations, the method of adminiſtering juſtice, of appeals, and every other matter relative to the government of a country. Examination ſhould be alſo made into the affair of ſucceſſion in the countries that make part of the empire; of the right of appenage, &c. and laſtly, what is the private condition of the princes of the empire; in what caſes and occurrences they enjoy the rights of common individuals, as in adoptions, emancipations, guardianſhips, teſtamentary diſpoſitions, &c.

XXII. There yet remain to be conſidered, the rights and prerogatives of the equeſtrian order, or the immediate nobility of the empire; their origin, their progreſs, and actual ſituation. And laſtly, all the ſtudy of the public law is terminated in examining the foundation, the rights, privileges, poſſeſſions, &c. of the military order eſtabliſhed in Germany; and eſpecially, 1. The Teutonic order, or the hoſpital of St. Mary of Jeruſalem; the grand maſter of which is prince and ſtate of the empire, having fixed his ſeat at Mirgentheim in Franconia: and, 2. The order of St. John of Jeruſalem; of which the grand prior of Germany is likewiſe a prince and member of the empire, having his ſeat at Heiternheim in the Briſgaw.

XXIII. We

XXIII. We cannot too often repeat, that all theſe ſubjects are ſuſceptible of great reſearches, and that the ſtudy of the public law or conſtitution is extremely complicate. We are, indeed, only able to give the outlines; an examination into theſe matters themſelves, however, will not be ſo unentertaining as they may appear in this analyſis; a thouſand intereſting objects will be met with in the purſuit. Hiſtory is the beſt guide in this labyrinth; and the knowledge of the law of nature, a good logic, and a clear and ſound judgment, will conduct the ſtudent through all its intricacies.

CHAP. XV.

The Roman Law.

I. THE names, that cuſtom adopts or retains, frequently give riſe to illuſive ideas in the ſciences; there are many who imagine that the law, which at this day is called Roman, is a ſyſtem of laws that was in uſe in ancient Rome, either under the kings, the republick, or the emperors: we muſt begin therefore by informing them that nothing is leſs true; and that this law has nothing in it Roman, but the name. Rome, in its moſt flouriſhing ſtate, had but few laws; we may form an idea of the juriſprudence of that famous people, by reading the admirable treatiſe of Cicero *De Legibus*. What is now called the Roman law, therefore, is only a compilation of laws that the eaſtern emperor, Juſtinian I. cauſed to be made by the juriſconſults, Tribonius, Theophilus, Dorotheus, and Johannes, in the ſixth century, and ranged in a certain ſyſtem according to the order and nature of the ſeveral matters. The introduction to theſe inſtitutes, addreſſed to the ſtudious youth, is dated at Conſtantinople the firſt of December, and in the year of the third conſulate of that emperor, who following the caprice

caprice of Conſtantine, transferred to Conſtantinople all the cuſtoms and abuſes of Rome.

II. It is true, that Juſtinian and his lawyers have included in this ſyſtem many of the laws that had been in force at Rome, but there are alſo a great number that are taken from elſewhere; as from the natural law, that of nations, thoſe of the Greeks and Egyptians, and the particular conſtitutions of that emperor. The whole has been reduced into a body of law *, and makes what is called the Roman law, becauſe the emperors, though reſident at Conſtantinople, conſtantly called themſelves Roman Emperors. This ſo celebrated book is compoſed of the inſtitutes, the pandects or digeſts, the code and the novels. It will be ſufficient juſt to open this famous compoſition, eſpecially the inſtitutes, to be convinced that Juſtinian committed an egregious fault in applying, without diſtinction or judgment, the greateſt part of thoſe laws, as well good as bad, that were made for Rome and other countries, to the eaſtern empire; to which they were not in the leaſt conſentaneous. Modern nations of Europe have doubtleſs done ſtill worſe, by adopting that law for the foundation of their legiſlation and juriſprudence: for to ſpeak plainly, this ſo famous book abounds with inſufferable abſurdities, and a pedantiſm that is repugnant to good ſenſe. I juſt now opened it by chance, where it treats *de patria poteſtate*, and it there ſays, *The father may loſe his authority over the ſon by ſeveral ways; firſt, when the father dies; ſecondly, when the ſon dies, &c.* are not theſe happy diſcoveries? and it is no exaggeration when we ſay, that there is ſcarce a page in the *Corpus Juris* that does not contain ſimilar inſipidities, and that is not at ſhameful variance with the common ſenſe of mankind.

III. The advice, that ſhould be given to thoſe who apply themſelves to the ſtudy of juriſprudence is not free from embarraſſment. If they draw their

* Corpus Juris.

knowledge

knowledge principally from the Roman law, it is a very bad ſource; they will be liable to fill their minds with chimeras and abſurdities, which they will regard all their lives after, as the certain principles of all that is juſt and equitable; in which, however, they will be lamentably miſtaken. It was not without reaſon therefore, that I ſaid in my Political Inſtitutes, that lawyers ſhould not be conſulted alone in the compoſing of laws, but that the miniſters of every other department ſhould be joined with them: for it is almoſt certain, that juriſconſults, imbued with the prejudices of the Roman law, which they have learned in their youth, and which have made too deep impreſſions on their minds, will follow its analogy, maugre their precautions, and fail in their intention; which ſhould be, to dictate laws uſeful to the ſtate by which they are employed, and agreeable to the age in which they live. Experience moreover, muſt convince us, that the laws, fabricated by modern Tribonians, are all modelled after the faſhion of the Roman laws; and as the retainers to the courts of law can be maintained by litigation only, they have in oppoſition to the good intention of their maſters, conſtantly left the door open to chicanery, by ſubjecting mankind, in the moſt ſimple and ordinary actions of life, to a thouſand juridical formalities and precautions, drawn from the Juſtinian inſtitutes; and which are in fact ſo many traps into which they may fall, and where they are ſure to be plundered.

IV. However, as all lawyers are not called to legiſlation; and as we have ſaid (chap XII. ſect. 1.) that juriſprudence conſiſts, in part, in the knowledge of the laws that ſubſiſt, and the art of applying them to occurrent caſes; and as in moſt countries of Europe that are called civilized, the Roman law is adopted either in whole, in part, or *in ſubſidium*; or their ſeveral municipal laws are at leaſt founded on principles that are drawn from thence; it follows, that he who would apply himſelf to juriſprudence ſhould ſtudy this Roman law; but

but he ſhould be previouſly well adviſed to do it with the greateſt precaution, and carefully to diſtinguiſh the time and place where theſe laws were made, and by no means to regard them as infallible, or to imagine that the Corpus Juris is an inexhauſtible fund of wiſdom, or that truth, juſtice and utility are no where to be found but in the Roman law.

V. This law could not be obligatory to the weſtern countries of the empire, eſpecially after the total deſtruction of the empire of the eaſt. Its adoption in all Europe was voluntary. It firſt began to be uſed in certain provinces of Italy. In the twelfth century its authority was confirmed over almoſt all Italy. In the fourteenth and fifteenth centuries the Germans brought it from Italy, and introduced it into their academies. It took root inſenſibly in every mind. The makers of laws were all imbued with its maxims, and their laws neceſſarily favoured of it. It was placed on the throne by Maximilian I. and has reigned ever ſince that time in Germany. Moſt other countries of Europe have followed theſe examples, and the veſtiges of the Roman law are every where to be found. When we read the diſputes of Bartolus, Baldus, Azo, Zaſius, Cujacius, Bachovius, Mercerus, Pancirollus, and ſo many other celebrated lawyers, on the obſcurities and antinomies or contradictions that are found in the Roman code, we cannot avoid crying out with Solomon, *that all is vanity*; and concluding that juriſprudence is not excepted from the general rule.

VI. In this true ſituation of affairs, the ſtudent ſhould cloſely apply himſelf to the knowledge of the hiſtory of the Roman law, and of the ſtate of ancient Rome; but eſpecially that of Conſtantinople and the eaſtern empire; of the ſenatuſconſulta, the plebiſcita, and conſtitutions of the princes, of the pretorian power, of the cuſtoms and manners of the people, of the deciſions of legiſts and reviewers; of t.. interpretations and application of each law to the preſent ſtate of the world. A perfect knowledge

ledge of the Latin language, and of the Roman antiquities, will greatly facilitate this ſtudy.

VII. With theſe preliminary ſciences, we paſs more eaſily to the knowledge of the Roman law itſelf. The inſtitutes firſt preſent themſelves; they were compoſed after the digeſts and the code, for the inſtruction of beginners in this ſtudy. *Bonus inſtitutiſta eſt bonus juriſta*, is an old ſaying of the ſchools, and notwithſtanding has ſome truth in it: for although this book be writ without method, and without judgment, and though it be filled with obſcurities, and even in ſome places is contradictory to the digeſts, and other antecedent laws, it includes however the elements of the Roman law, and we have no better abridgment.

VIII. Theſe inſtitutes ſhould be ſtudied in the inſtitutes themſelves, and the mind not occupied with acquiring an imperfect and ſuperficial knowledge from extracts or abridgments: they are already a kind of compendium; to abridge them further is to reduce them to a mere ſkeleton. A complete courſe in them is commonly made in univerſities and academies. It is neceſſary to begin by ſearching out the true ſenſe of the text, in which the commentaries, paraphraſes, and notes are of great utility. It is proper to remark alſo, that there are many imperial conſtitutions, that are not to be found in the other parts of the Juſtinian law; and of which an author, named *Bandoza*, has made a very uſeful index; we have alſo a Greek tranſlation of the inſtitutes that amplifies and explains many uſages and cuſtoms of the old Romans, and of which the firſt edition was publiſhed by Angelus Politianus; and laſtly, many learned lawyers of our days have applied themſelves to rectify, explain, and digeſt the inſtitutes, with whoſe labours it is neceſſary to be acquainted. They are quoted by abbreviation with an *I* only, and adding the title and paragraph.

IX. The pandects or digeſts (which are denoted in quotations by an *ff.* or ℔) contain, according to the

the common opinion, a complete ſyſtem of civil law; and if we inſpect the rubrics, and the titles of the books and chapters only, we muſt agree that this work contains laws relative to moſt matters and caſes that occur in civil life: but when we ſee how theſe titles are executed; the inſignificance of many of its laws; the little order and method that are there obſerved; the chimeras, and trifling reaſonings, with which this ſo celebrated book is filled, almoſt from beginning to end; we cannot but deplore the weakneſs of the human underſtanding, which in the middle of the eighteenth century, could offer no better guide, no theory more perfect, for the determination of what is juſt or unjuſt, nor a more ſolid foundation for the properties of mankind: for theſe famous pandects are, in fact, nothing more than a ſhapeleſs maſs; a mere extract from better precepts, and more celebrated juridical deciſions that were then known. However, we muſt here repeat, that we have nothing better; and it is impoſſible to become an able lawyer without making a ſolid ſtudy, and even a complete courſe in theſe digeſts.

X. There are different editions of theſe pandects, in which the text varies infinitely; and this diverſity renders the true ſenſe ſtill more equivocal and unintelligible. The copies moſt known are thoſe of Nuremberg or of Holoandre, that of Florence, and that which is commonly uſed. Of the Florentine copy there remains only an eſſay known by the title of *Emendatio pandectarum juxta exemplar Florentinum, &c.* The common edition, as it makes part of the Corpus Juris, has, at this time, the authority of law; and is generally made uſe of to obviate critical diſputes, to which there would otherwiſe be no end. However, as theſe digeſts are too prolix in the original text, and have no method, we can only regard them as a dictionary to be conſulted occaſionally, to verify the laws that we find cited, or to quote theſe laws themſelves as authorities. But when we would uſe them in the courſe

of

of the ſtudy of the theory of the Roman law, we ſhould have recourſe to a good abridgment, or ſyſtematic treatiſe on theſe digeſts, and add the beſt explications of their matters, the moſt judicious interpretations of the text, the moſt celebrated commentaries, and the moſt ſolid controverſies on the law, which may ſerve as an application of the Juſtinian laws to modern principles.

XI. The Code (codex) was the beginning of the Roman law; but at this time, the principal matters of which it treats are incorporated in the digeſts; and it is ſeldom conſulted but in particular caſes. The firſt code was formed of the Gregorian, the Hermogenian, the Theodoſian, and from ſome laws of Juſtinian. That emperor afterwards altered it, and augmented it with ſome new deciſions, from whence it was called *Codex repetitæ prælectionis*. As there are alſo added ſome *Novels*, or extracts from them, theſe are called the *Authentics*. Modern nations make little uſe of this book in the buſineſs of juriſprudence; although it is capable of throwing light on the Juſtinian laws, and of ſupplying the defects there are in the inſtitutes and digeſts; and the more as the *Codex repetitæ prælectionis* was the laſt of the works of Juſtinian. It is quoted by abbreviation with a ſimple *C.* There are many celebrated commentaries on this book.

XII. The *Novels*, which form the moſt recent law, ſerve to explain many ſubjects in the preceding laws, and to ſupply their defects. There is no order obſerved in the matters they contain; and as they are almoſt all adapted to the ſtate that empire was then in, it is difficult to apply them to the actual ſituation of modern ſtates. The greateſt part of theſe novels were publiſhed at firſt in the Greek language; and after the death of Juſtinian they were never collected into any regular body. The ancient, but bad Latin tranſlation of them is, nevertheleſs, regarded as authentic; it is added to the Code, and is uſed by the name of *Authenticæ collationes*. It is cited in abbreviation by the letters

Nov.

Nov. or ſimply by an *N.* In examining them, the different editions ſhould be carefully attended to; of which editions the numeration and deſcriptions are to be found in all the juridical Bibliotheques, or catalogues.

All theſe four parts, or four different works, of which the Roman law is compoſed, are united in the great work, which is called, by way of eminence, *Corpus Juris.* No lawyer ſhould be without it. He ought likewiſe to have a good *Corpus juris gloſſatum*, furniſhed with an ample index or regiſter. Dionis Godofredus has made very judicious and very learned notes on the Corpus Juris; and his work deſerves to be in the hands of every one, who would apply himſelf ſucceſsfully to the ſtudy of ſo vaſt and ſo complicate a ſcience. The commentaries on each part of the Roman law are of ſo large a number, that it is impoſſible to enumerate them. The libraries and bookſellers ſhops are loaded with them. Are there many of them that are excellent? I know nothing of the matter.

CHAP. XVI.

The German and Saxon Laws.

I. THE intimate connexion there is between the Saxon law and the German law in general, of which the former makes a part, obliges us to unite them here; the nature of their connexion will not permit theſe two ſubjects to be treated ſeparately, without falling into a number of diſagreeable repetitions. We muſt not confound, moreover, the Germanic law, of which we here treat, with the political law or conſtitution of Germany, although the former borrow, from the Receſſions and other public laws of the empire, ſeveral conſtitutions and ordinances by which the affairs of individuals

dividuals are regulated, and which conſequently become the objects of the civil law. Theſe cautions ſeem neceſſary before we enter on the ſubject.

II. According to Tacitus, Strabo, Ptolomy, and all authors that have mentioned this matter, the ancient Germans had no written laws. They followed the laws of nature and of cuſtom. The principal maxims of their cuſtomary law they tranſmitted to their poſterity by tradition, and by hymns and canticles, which they recited or ſung to their children, and which contained at the ſame time the moſt illuſtrious actions of their anceſtors, many objects of worſhip, &c. Charlemagne was the firſt who taught the Germans to read and write (at leaſt thoſe people who inhabited the center of Germany, and the north and eaſtern provinces) and who became their firſt legiſlator. But as the manners of theſe Germans were yet very ſimple, not to ſay ſavage, it is natural that the laws ſhould be alſo ſimple and imperfect; that is, relative to few objects, as the neceſſities of this people were not greatly multiplied, and as commerce, arts, ſciences, luxury, &c. were unknown to them. The frequent revolutions that have happened in Germany, the continual changes in the form of government, and the various diviſions of provinces, have hindered the German law from being reduced at once into a regular and general ſyſtem, as well as prevented its uniformity. Without ſtaying to inquire, therefore, what theſe laws ought to have been, and whether they were dictated by ſtrict juſtice and ſound policy, we ſhall content ourſelves with briefly examining what they in fact are; what now remains of the original laws of Germany; what has been added by the German legiſlators; and what has been adopted from other nations.

III. The firſt of the German laws, that is come down to us, is doubtleſs the *Salic* law. The etymologies of names, that the critics draw from the conformity of words and ſounds, are commonly better adapted to amuſe children than to ſatisfy men

men of underſtanding. If we ſhould ſay, with ſome celebrated authors, that *Salic* is derived from the two German words *Saltz* and *Leck*, of which the firſt ſignifies *ſalt*, and the other *to lick*, and ſhould draw from thence real conſequences, it would be to report an opinion that is only capable of exciting ridicule. It is more reaſonable to believe, that theſe laws were called Salic from the name of the ancient Franks called *Saliens*, who made them when they inhabited the northern banks of the Rhine, from whence they were alſo called *Ripuarii*; and who ſince introduced them among the Gauls. For although mention be made in theſe laws of pecuniary penalties, and we know that the Franks on this ſide the Rhine knew not yet the uſe of money, we may ſuppoſe that they had ſome metal, or other imperiſhable ſubſtance in lieu of it, and of which they made uſe in the common intercourſe of life, where a real exchange of goods could not take place; or in their public contributions, &c. All that we certainly know of this matter is, that theſe laws came originally from the Franks (a nation of Germany,) and that they are German laws. It appears moreover, by a little treatiſe, which is at the head of a collection we have, that king Thierri I. being at Chalons, reformed and digeſted theſe laws for the Germans, the French, the Bavarians, and the other people under his ſubjection. This collection, which is intitled *The Pact of the Salic law*, conſiſts of four and twenty titles, which treat of different matters and different crimes. The ſalic laws were firſt publiſhed by *Pithou*, and ſince by M. *Bignon*, advocate general, who has alſo added learned commentaries. There are likewiſe the commentaries of *Chiflet*, which he intitles *Natale ſolum Legum ſalicarum*; and a ſalic lexicon of the *Atuatic* words.

IV. The ſecond collection of ancient Germanic laws is that which is called the *Weichbild* * of Mag-

* The old German word *Weichbild* anſwers to the Latin *ager*, *territorium*, and therefore ſignifies the law of a certain territory, a provincial law.

debourg or Saxony, becauſe that archbiſhoprick makes a part of Saxony. There is a treatiſe *de Weichbildis Saxonicis*, wrote by one *Gryphiander*, which is held in eſteem.

V. The ancient Saxon law, which makes part of the German law, is that of which the Saxon Eaſtphalians and Weſtphalians formerly made uſe. It conſiſted at firſt, like thoſe of the other German nations, merely of ancient cuſtoms. Charlemagne, as we have already ſaid, gave them the firſt written laws, which have been publiſhed in part by *Herolde*, *Lindenbrog*, *Lucas Holſteinius*, and others. The emperors and the kings of Germany have, in courſe of time, added ſome matters to it; as certain laws which are attributed to Henry the Fowler, and to the Othos. *Ebkon* of *Rebkau* compiled, about the beginning of the thirteenth century, a kind of code of all theſe ancient cuſtoms, and intitled it the *Saxon mirror*. This law is adopted by a great part of Germany, and regarded as an univerſal law in the Saxon palatinate. But ſince the introduction of the Roman law, &c. of which we ſhall preſently ſpeak, it has loſt its authority in many provinces, and the obſervance of it is now confined almoſt to the countries of the Erneſtine and Albertine branches. When we would make uſe of the Saxon mirror, it is neceſſary to add the commentaries, and to take good heed not to confound it with the Saxon feodal law.

VI. *The Souabian mirror* is another compilation of ancient Germanic laws and cuſtoms; leſs conſiderable indeed than the Saxon mirror, but which however had authority in the provinces upon the Rhine, in the Low Countries, and in other parts of Germany. There are divers editions of it, with copious commentaries.

VII. Laſtly, we muſt reckon, among the number of the ancient German laws, the law or *ſtatutes* of *Lubeck*, celebrated eſpecially for the uſages and cuſtoms of the ſea, and for its laws of commerce; the *ſtatutes of Hambourg*; the *laws of Holſtein*; the *Ditmarſian*

marſian law, &c. though theſe laws are neither of ſo ancient a date, nor of ſo extenſive an authority, as the former. A more copious information of theſe different laws may be had in the famous treatiſe of *Conring*, *De Origine Juris Germanici*, in the *Hiſtory of the German Law*, by *Hoffman*, and in the *Codex legum antiquarum* of *Lindenbrog*, &c.

VIII. We muſt here remark, that the conſtitutional law, as well as the modern juriſprudence of Germany, is compoſed, 1. Of the ancient German law, 2. Of the new laws of the empire, 3. Of the new ordinances and ſtatutes which the powerful princes of Germany have made in their ſeveral ſtates, 4. Of the Juſtinian or Roman law, and 5. Of the canon law. It is not the buſineſs of this abridgment to examine whether all theſe foreign laws ought to be obligatory to the nations of Germany, and to what degree they are actually bound by them. It is ſufficient to know that they are ſo. The reſt is to be learnt by the ſtudy of juriſprudence itſelf.

IX. With regard to the *ancient common law of Saxony* in particular, we ſhould know, that it is compoſed, 1. Of the provincial law, or the Saxon mirror, 2 Of the Saxon Weichbild, and 3. Of the old feodal law of Saxony: the changes of times have cauſed, however, great alterations in theſe as well as in the German law in general, and future times may produce ſtill different manners, and conſequently different laws; but the ancient Saxon law ought ſtill to be conſidered as the baſis of new laws; and where theſe are wanting, thoſe are ſtill valid.

X. The modern Saxon law (jus Saxonicum ſpeciale vel novum) is very different from the ancient. It is divided into *electoral* and *ducal*. The former is that which the electors of Saxony by virtue of their prerogative, have preſcribed to their electorate, and to the countries that are incorporated with it. This inſtitution is compoſed of ordinances and deciſions, of laws relative to the police,

and of every other kind. Among the reſt, the conſtitutions of the elector Auguſtus, in the year 1572, are moſt remarkable: theſe are divided into four parts, which Muller and Carpzow have illuſtrated by ample commentaries. To theſe muſt be added *the redreſſments of grievances* of the countries in the year 1609, and the deciſions of the elector John George II. to the number of ninety one; which John Philip has elucidated by remarks. All theſe form the body of the new Saxon law, and demand a particular ſtudy.

XI. *The ducal Saxon law* properly belongs to the Erneſtine branch. It conſiſts of divers conſtitutions and ordinances relative to law ſuits, regulations of the police, decrees of the tribunals, and other ſimilar laws. All theſe conſtitutions (as well as the ducal Saxon law in general) follow, however, the analogy of the univerſal Saxon law. This law is obligatory either to *all the ſtates* of the country where it is received, or only to *ſome particular ſtates*. There are moreover, in Saxony, ſome cities and provinces which have their municipal or particular laws and cuſtoms, from whence ariſes what is called *jus ſtatutarium*, which occaſions freſh difficulties in the ſtudy of this juriſprudence, and renders it extremely complicate.

CHAP. XVII.

The Feodal Law.

I. WHEN we think, in the ſtudy of the law, that we have finiſhed our career, there frequently remains much ground to be gone over before we can attain a complete knowledge of it. From the various conditions that men hold in ſociety ariſe certain prerogatives and advantages, and various duties are impoſed, from whence reſult particular rights with which it is abſolutely neceſſary for

for the man of law to be acquainted. Among theſe particular rights is firſt reckoned the *feodal law*, of which we ſhall here give the out lines. This matter belongs in part to the political or public law, in as much as it regards the intereſts of ſovereigns, and the connexions that ſubſiſt between them and many of their ſubjects; and in part to the civil law, as it concerns the private fortune of a great number of the inhabitants.

II. Without having recourſe to thoſe learned ſubtilties, which I find in the treatiſe on the ſpirit of laws, hiſtory and reaſon furniſh me with arguments equally ſtrong, to convince me that the origin of fiefs is derived from the ancient Germans; from their warlike ſpirit in general, and from their *law of greateſt force* in particular; by means of which it was allowable for each free man, poſſeſſing portions of land, to do himſelf juſtice by force of arms. We ſhould remember, that Germany was antiently inhabited by various people, great and ſmall; that theſe people had each their chief; and for the reſt, that all the nation was divided into freemen and vaſſals. I ſhall not ſtop here to prove what every page in hiſtory ſhews, nor ſhall I enter into a further detail of the cuſtoms and laws that reſulted from this ſituation; it is ſufficient to remark, that the fiefs took their riſe from it, and that, without a kind of miracle, they could not but have reſulted from it.

III. In fact, the kings, dukes, and princes of theſe people, as we chooſe to call them, had almoſt always the ſword in hand, and were conſtantly environed by a multitude of warriours, ſome of whom are called by the Latin authors (the only writers we have on the ancient ſtate of Germany) *comites* or *commilitones*, that is, companions; and the reſt *fideles*, the faithful. The chiefs of the people, the moſt powerful lords, had alſo about them a ſmall troop, a ſort of guards. It is very natural to ſuppoſe, that theſe companions, theſe commilitones, and theſe faithful or followers, could not live on

the air, they and their dependants; that they muſt receive a recompence for their ſervices; and as the uſe of money was then unknown in Germany, it neceſſarily follows, that the princes and chiefs muſt give them portions of land, and the right of employing thoſe who inhabited ſuch lands for its cultivation, and alſo of arming them in caſe of need, and of uſing them either as followers, when they accompanied their prince to war, or of defending themſelves when, by virtue of the right of arms, they were attacked in their own poſſeſſions; or when they would revenge an injury that had been done them by ſome neighbour. Now the donations of land are called in Latin *feudum*, and in German *lehn*, that is a loan; the chiefs of nations gave, therefore, theſe lands by way of loan, on the conditions above mentioned; but ſtill reſerving to themſelves the right of ſovereignty. The freemen, who were thus in poſſeſſion of lands, became, in the natural rotation of human affairs, powerful; and, in proportion as their power increaſed, they extended thoſe terms of advantage under which they held their lands. However, it is not till the thirteenth or fourteenth centuries that we can diſtinctly trace the marks of ſovereignty or territorial ſuperiority that vaſſals exerciſed in their fiefs. Their manners alſo changed, and they became by degrees more civiliſed. The form of government was at laſt totally reverſed. Charlemagne conquered Germany, and reduced it to a province of his empire. The poſſeſſions of fiefs remained; and to the ancient conditions new ones were added, which were continually amplified in proportion as the face of affairs altered. The regulations that were made on this account had the force of law; and, from thence, have ſucceſſively aroſe the feodal laws, with all their technical terms of lord paramount of the diſtrict, vaſſal, rebellion, &c. &c. which form at this day a ſcience very extenſive and very intricate.

IV. There is a ſecond ſort of fiefs, whoſe origin is different, but altogether as natural as the foregoing;

going; theſe are the *feuda oblata*, that is, *offered* or *transferred fiefs*; which aroſe in the following manner. So long as *the law of greateſt force* ſubſiſted, it is natural to imagine, that the weak found themſelves perpetually expoſed to the attacks of the ſtrong, and far from being able to do themſelves juſtice. They therefore had recourſe to protection; to obtain which, they offered ſome powerful neighbour, or even the prince of their nation, the lordſhip of their lands, and alſo promiſed him certain rents, ſervices, or ſuccours in time of need, on condition of receiving in return, all the protection of which he was capable, in all thoſe incidents where they ſhould have occaſion to claim it. This transfer, this alienation of the ſuperiority of their lands and poſſeſſions, became irrevocable, and conſequently theſe fiefs, voluntarily offered, took the ſame nature, ſome trifling circumſtances excepted, as thoſe which were granted by the lord.

V. Religion has ever had a powerful influence over the minds of men, and the Roman catholic religion above all others. After Charlemagne had converted the Germans to Chriſtianity, and the authority of the hierarchy of the Roman church had extended to Germany, many of theſe fiefs fell into the hands of the clergy, ſome of which they poſſeſſed under the title of lords, and others under that of vaſſals. Some poſſeſſors of lands promiſed themſelves mighty protections by offering their lands in fiefs to the church, which was not only reſpected but held as ſacred. In a religion, moreover, where the miniſters of the altar are great lords, as cardinals, biſhops, prelates, &c. it was neceſſary that they ſhould be provided with eſtates correſpondent to their dignities; and for this purpoſe the princes or chiefs of the German nations gave them many lands in fief, and from thence came the *eccleſiaſtic fiefs*.

VI. Such being the true origin and nature of fiefs in general, it is ſurpriſing that the Germans have been able to introduce this ſingular cuſtom

among the Gauls and other nations; but it is much more ſurpriſing, that this right and cuſtom was not aboliſhed after the emperor Maximilian I. had totally overthrown the foundation of it, by aboliſhing the law of *the greateſt force*, and all acts of violence; for it is a maxim founded on common ſenſe, that when a cauſe ceaſes, all its effects ſhould alſo ceaſe: notwithſtanding, there are ſtill lords paramount, and vaſſals, though there are no longer any private wars, and though all the diſputes between the inhabitants are decided before the tribunals. Sovereigns have alſo the right of employing their ſubjects in their wars by virtue of their ſovereignty, a right far more ſacred than that of ſeigniority. Theſe fiefs, moreover, are contrary to all principles of ſound policy: they form preciſely what is called *ſtatum in ſtatu*, an intermediate ſtate which has no real uſe; which encreaſes the component parts of the conſtitution unneceſſarily; which gives riſe to a juriſprudence altogether peculiar; which cauſes diſtractions in ſociety; which makes poſſeſſions, uncertain and often times dependant on arbitrary will; which lays continual ſnares for the people, and makes them fall either into contumacy or tranſgreſſions of the feodal right, in order to pillage them of their property under the ſhadow of the law.

VII. Let us ſpeak plainly. The practice of the renewal of fiefs, and ſervices, payable in caſe of the death either of the lord or vaſſal, or at every alienation, clearly proves what we have been ſaying, that fiefs were originally obtained by way of loan. All perſonal ſervices have moreover been reduced to pecuniary contributions. What neceſſity then is there to multiply theſe contributions, and to take them under ſo many different titles, which are ſo many vexations to the induſtrious inhabitant? Cannot the ſtate take them by a method more ſimple and more convenient? Has it not the right of ſovereignty over all its lands and ſubjects? Wherefore then theſe futile, miſerable laws and cuſtoms

cuſtoms of vaſſalage, &c. Alas! by favour of theſe laws, you deprive an induſtrious family of its patrimony; you ruin ſome of your beſt ſubjects in order to obtain their lands; or you acquire theſe lands by the extinction of a noble family. You have made a wonderful acquiſition! You have loſt thoſe ſubjects who are indiſpenſably neceſſary in war, in council, at court, and in all the firſt employments of the ſtate: inſtead of the ſervices which they rendered you, and the contributions which they paid you, you incorporate their lands with your domain, and put them under the ſubjection of your chambers of finances; inſtitutions the moſt proper in the world to rob a country of its luſtre, and to ſwallow up all rural œconomy. The caſtles fall in ruins, the gardens lie waſte, the lands and the cattle are abandoned to the rapacity of ſtewards, and the foreſts are deſpoiled; all new erections or improvements, which ariſe from the diverſity of genius in the inhabitants, ceaſe; induſtry and the riches of agriculture expire; every object aſſumes a dull and barren aſpect; beggary appears in every part. Behold, you have performed an admirable chief d'œuvre! Every ſovereign, who does not abhor the giving of fiefs that are to devolve into his own domain, is very ill inſtructed in his real intereſt.

VIII. But as there is no reclaiming mankind from thoſe errors where their intereſt ſeems to be concerned, though it be manifeſtly chimerical, we muſt here inform the ſtudious youth what thoſe fiefs are that ſubſiſt at this day, and where he will find the ſource of the laws that ariſe from them. It appears then from all that we have ſaid, that "a "fief is a certain property which the owner gives "or cedes to another, on condition of fidelity, and "of certain rents or ſervices; with the further "condition, that the poſſeſſion of it ſhall not be "alienated or transferred to any other perſon without the knowledge of the firſt proprietor, nor "without his conſent, and a renewal of the promiſe of fidelity." Such a property is called a

fief, and in Latin *feudum* or *beneficium*; the proprietor who grants it is called the *lord paramount*; the poſſeſſor, who receives it, the *vaſſal*; and the contravention of this agreement is called *rebellion*, &c.

IX. The feodal law contains, therefore, all thoſe regulations to which the lords and their vaſſals are ſubject, and which ſerve as laws to decide in all caſes where any difference ariſes relative to their fiefs. It muſt be confeſſed, that theſe laws are as obſcure and as embarraſſing as the foundation of the matter itſelf. *Loiſeau*, ſpeaking of the word *ſuzeraineté*, or ſeigniority, ſays, that the term is as ſtrange as this kind of lordſhip is abſurd. Under the emperor Frederic II. one *Hugolin* compoſed a book of the feodal law, according to the uſages and cuſtoms of the Lombards? and annexed it, by way of collation or appendix to the novels of Juſtinian. This Lombard law was introduced with the Juſtinian, firſt in the academies, and afterward by the lawyers in the courts of fiefs. But as it was imperfect, and even erroneous in many places, they found themſelves obliged to have recourſe to the cuſtoms of the Germans, and to adopt, by way of ſupplement, divers feodal laws of Saxony and Suabia. The Roman and canon laws were alſo ſucceſſively added to it; and which, altogether, form a whimſical compoſition. It is an edifice whoſe foundation is rotten, and whoſe ſuperſtructure is loaded at once with Gothic and Roman ornaments.

X. To obviate ſo many inconveniencies, the feodal law is divided into *univerſal* and *particular*. The former comprehends the Lombard law, which is ſuppoſed to be capable of a general application to all countries. The other regards Germany in particular: but, as the uſages vary in the different provinces and ſtates of Germany, inquiry muſt alſo be made into all that cuſtom has introduced, and of what is received in each particular court of fiefs. The different commentaries, that have been made on the text of the Lombard and German feodal laws, ſerve only the more to obſcure and confound the matter.

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XI. A celebrated lawyer, named *Schilter*, has publiſhed a *Jus feudale Alemanicum*, which abounds with good ſenſe and erudition; and M. *Thomaſius*, in his treatiſe *de ſelectis feudalibus*, has introduced an ancient author *de beneficiis*, which have ruined the credit of the Lombard laws in Germany: but have they ſubſtituted any thing more rational?

XII. He, who ſhall apply himſelf to this ſcience, will do well, amidſt the chaos of matter and of laws, to ſearch in hiſtory the ſources of the feodal right, and to conſult the beſt authors that have treated on it, whoſe names he will find in a work intitled *Erici Mauritii Nomenclatorem ſcriptorum in jus feudale.* He would do ſtill better, to make a complete courſe of the feodal law under ſome able profeſſor; to read the beſt treatiſes that have been wrote on the ſubject; conſtantly to have recourſe to hiſtory, and to inform himſelf carefully of the laws, rules, and cuſtoms, that are received in each country, and in each tribunal eſtabliſhed for the determination of feodal cauſes.

CHAP. XVIII.

THE ECCLESIASTIC LAW, AS WELL CATHOLIC AS PROTESTANT

I. WE are not to imagine that the eccleſiaſtic law, or the law of the church, is ſo called becauſe it is of divine origin; that it proceeded immediately from God; or, that it is taken verbatim from the Holy Scriptures. No: *it is a collection of human laws made by the ſovereign, and relates not only to all perſons who appertain to the eccleſiaſtic ſtate, but to all objects that are relative to the exterior exerciſe of religion.* It is true, that the uſe, or abuſe, has ſubjected, to the eccleſiaſtic juriſdiction, many things that in a ſtrict ſenſe do not relate to it; but as no eſſential injury occurs from thence to ſociety,

ciety, and as all conſiſtories and eccleſiaſtic courts of juſtice are eſtabliſhed by the ſovereign of the place, who by his own will appoints their members; and as all affairs are there decided in his name, and by his authority, in virtue of his territorial ſuperiority, it matters little whether they be laics or eccleſiaſtics who exerciſe this kind of juſtice; and this regulation appears the more eligible, as caſes frequently occur where it ſeems neceſſary that the judges ſhould be verſed in the ſcience of theology.

II. As the eccleſiaſtic juriſprudence teaches the civil laws of a ſtate, that relate to the perſons and ſubjects that belong to the church, we muſt not confound this ſcience with eccleſiaſtic prudence, of which we have already ſpoke in treating of the different parts of theology, and to which we refer the reader.

III. Since the time of the Reformation, the eccleſiaſtic law may be divided into two parts, one of which is obligatory to the catholic Chriſtians, and is called the *Canon Law*; the other is obligatory to the proteſtant Chriſtians, and is called the *Conſiſtorial Law*, or the eccleſiaſtic law of the proteſtant church; although this church has preſerved many of the principles, deciſions, and ordinances of the canon law alſo. It is no ſmall inconvenience in proteſtantiſm, that the limits of the authority of the canon law are not exactly defined, and that no one knows to what point, and in what caſes, theſe deciſions and theſe maxims are binding to proteſtants. We ſhall ſee preſently, notwithſtanding any thing that may be ſaid to the contrary, that their eccleſiaſtic tribunals follow the analogy of the canon law, and that it is adopted by cuſtom wherever the poſitive laws of the ſovereign are defective.

IV. After Chriſtianity was extended in the eaſt and weſt, and the uſe of councils was introduced, the eccleſiaſtics, ſo aſſembled, turned their views to the regulation of manners and the exterior conduct of Chriſtians, and made on this ſubject certain ordinance

dinances or *Canons*; which is a Greek word, and ſignifies *rules*. It was the humour of thoſe days to give the moſt ſimple things, eſpecially if they concerned the church, ſtrange and abſtruſe names, in order to cover them with a kind of veil, and render them reſpectable in the eyes of the vulgar, and to give them an air of great learning. Theſe canons, which are either deciſions on matters of religion, or rules of eccleſiaſtic policy and diſcipline, made by a general, national, or provincial council, have been collected at different times. The biſhops firſt made uſe of theſe collections to extend their authority, and the popes afterwards made the ſame uſe of them to eſtabliſh their hierarchy, by loading the whole Chriſtian world with a code or body of laws, fabricated after their own maxims. Our civil law then is Roman, and ſo is our eccleſiaſtic. It is thus that Rome, after the deſtruction of her monarchy, ſtill governs Europe by the authority of the mitre and her laws; it is thus that the prophecy of the augurs is accompliſhed, that the God Terminus, placed in the Capitol, ſhould never go back.

V. It is pretended that the canons have been collected ever ſince the third century. *Dennis the Little*, in the fifth century, made a more ample collection of them; and after him *Ferrandus*, *Creſconius*, and above all, *Iſidorus Mercator*. From theſe different compilations has aroſe the celebrated *Decree*, or the *Concordance of the diſcordant canons*, which was made in 1151, by Gratian, a benedictine monk, from the texts of the Bible, the councils, and the ſentiments of the fathers of the church. It was further augmented by the *Decretals* of pope Gregory IX. Boniface VIII. added to theſe decretals the ſixth book. To Clement V. we owe the *Clementines*. John XXI. added the *Extravagants*; and laſtly have been added the *Common Extravagants*. All theſe matters compoſe the body or courſe of the canon law, which we have in three folio volumes, including the commentaries *. This is the juriſprudence that is at

* The beſt collection is that which was publiſhed at Hall by the late chancellor Bæhmer, and is dedicated to the pope.

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this day authoriſed by the holy ſee, and which alone is uſed in catholic countries, in the eccleſiaſtic, and contentious court. In France, however, theſe decrees are not all received; ſeveral of them have been rejected, and the canon law, in general, has there no other abſolute authority than what the king is pleaſed to give it.

VI. The German biſhops have found means to make it more valid in the empire; and even the proteſtant princes have retained its principal maxims in their proceſſes in matrimonial caſes, and in many other ſubjects of eccleſiaſtic, civil and feodal law. We have two curious works on this ſubject: one is the preface that *Arnold Corvinus* has placed at the head of his Aphoriſms of the canon law, and the other a book wrote by an anonymous author, and which is intitled, *De jure canonico, quatenus in academiis reformatis, atque judiciis Luthranorum ſalva conſcientia retineri poſſit et obſervari, jureconſultorum quorundam judicia.* Every lawyer, who would make himſelf a maſter of his profeſſion, ought not only carefully to ſtudy the hiſtory of the canon law, but alſo to make a complete courſe in this part of juriſprudence, reading, at the ſame time, the beſt commentaries that have been wrote on it.

VII. The eccleſiaſtic and conſiſtorial law of the proteſtants requires yet a new and particular ſtudy. We muſt here lay down certain fundamental principles. The foundation of the Chriſtian religion, in its dogmas and its morals, is perfectly divine and altogether ſpiritual, and cannot admit on any pretence whatever, any temporal judge or human laws: from whence it appears how abſurd it is for a ſovereign to pretend to aſſume any authority whatever over the conſciences of mankind: but the exterior ſtate and exerciſe of religion, as well as the perſons and other matters that relate to it, are doubtleſs ſubject to the civil and political laws, and to the ſovereign power of the ſtate, which has a right to diſpoſe of them, to moderate and alter them, agreeable to the times, to the place, and to the public

public good. By the Reformation, the ſovereign has not only acquired a power over the exterior ſtate of the church in his own dominions, but the authority and juriſdiction of the pope and the clergy have totally ceaſed; and the eccleſiaſtics are there bound by their fidelity, their love of peace and concord, and their reſpect toward the civil government; and the authority which the holy ſee, the councils, &c. formerly aſſumed over conſcience, and religion itſelf, being aboliſhed at the ſame time, they acknowledge no other authority than that of the ſacred and canonical books. This altogether forms a ſyſtem, entirely different, of proteſtant eccleſiaſtic law.

VIII. From what has been ſaid, it follows, that in the ſtudy of the law it is neceſſary, 1. To endeavour to acquire a thorough knowledge of the religion and ſtate of the church, not only by the repeated lecture of ſacred books, and above all the New Teſtament, but alſo by conſulting the beſt authors who have wrote on this matter: 2. To ſtudy the hiſtory of the Reformation, and eſpecially to obſerve, in what manner, among the proteſtant princes, the arrangement of the churches and ſchools has been ſucceſſively and variouſly altered: 3. To learn from the public law, what are the limits of the power of any ſtate over the churches of another ſtate that is ſubordinate to it; the hiſtory of univerſities, academies, ſchools or colleges; of ordinances for the church; of viſitations, conferences and controverſies; of the peace of religion; the treaty of that peace; of conſiſtories, &c. 4. To examine what is the right that each ſovereign exerciſes over the church; and how far his power extends in deciding theological diſputes, &c. 5. To acquire a ſufficient knowledge of the ceremonies of the church, and of the adiaphoriſts, &c. 6. Carefully to conſider the ſubject of Chriſtian liberty, and of the power over conſciences: 7. To ſtudy the laws that relate to matrimonial affairs, and the degrees prohibited: in one word, to ſtudy the whole

divine

divine law, poſitive and univerſal. To which may be added, 8. A knowledge of the arrangements of hoſpitals, and of all charitable inſtitutions, and of their rights and privileges.

IX. The ſubjects, *de reliquiis ſacramenti in rebus matrimonialibus, de jure Sabathi, de polygamia, de jure principis circa ſacra, de libertate eccleſiarum Germaniæ, Galliæ, &c. de beneficiis eccleſiaſticis*, and an infinity of others, belong alſo to the province of eccleſiaſtic juriſprudence; and the man of law ought not to be ignorant of them.

X. With regard to Germany in particular, it is certain, that the foundations of the eccleſiaſtic law of the ſtates of the empire, are 1. The peace of religion; 2. The ſeveral receſſions of the empire which relate to this matter: 3. The treaty of the peace of Weſtphalia: 4. The concordats of the German nation with the popes: 5. The particular conſtitutions, as the regulation of churches, ſchools, matrimonial affairs, &c. 6. The protocols, and the articles of viſitations: 7. The canon law alſo; and 8. The uſage eſtabliſhed in each country. There is in Saxony a *Corpus juris Saxonici Eccleſiaſticum*, publiſhed in 1708; and among the regulations of churches, thoſe of Saxony and Wurtemberg have been hitherto moſt eſteemed.

XI. By the analogy of the general principles that we have here laid down, it will be eaſy to develop the ſyſtem that each nation or ſtate, whether catholic or proteſtant, has eſtabliſhed, and obſerves in its eccleſiaſtic law, and what are the objects that come under its conſideration. As the laws, the uſages and cuſtoms, and the abuſes, alſo vary in each country; and as the eccleſiaſtic juriſprudence conforms to theſe numberleſs combinations, it is impoſſible to enter here into a full detail of theſe matters. We think we have conformed to our plan, by giving a general idea of eccleſiaſtic law, and by pointing out the ſources from whence its particularities may be drawn.

XII. In

XII. In the countries where the Greek religion is eſtabliſhed, and where they follow its ancient ritual, as in Ruſſia, and in the dioceſes of the patriarchs of Alexandria, of Antioch and Conſtantinople, in Greece and elſewhere, there is likewiſe an eccleſiaſtic law, and which alſo is not preciſely the ſame in all theſe countries. As there is no abſolutely independent hierarchy in this church as in the Latin; but as the patriarchs, the archbiſhops, biſhops, metropolitans, ſuffragans, papas or curates, the caloyers and other religious, are all immediately ſubject to the ſovereign of their reſpective country, who renders them all the reſpect that is due to their rank, but at the ſame time that he kiſſes their hands, ties them together; and as in this church they know neither pope, nor ſacred college, nor inquiſition, nor bulls, nor legates, nor nuncios, nor any thing that forms the political ſyſtem of the Roman church, the ſtudy of the eccleſiaſtic law of the Greek religion cannot be near ſo complicate and difficult, as thoſe of the other countries of Chriſtianity.

CHAP. XIX.

The Mercantile Law; the Marine Law; and the Cambial Law.

I. IF the fiefs, the clergy, the military, the forreſters, the miners, and ſo many other claſſes in civil ſociety, have each one their law, it is but juſt that commerce, the ſource of every proſperity in a nation, ſhould likewiſe be the object of the legiſlator's regard; and, as its ſucceſs is founded on certain fundamental principles, that it alſo have a particular law conformable to thoſe principles. We ſhall here treat of this law, of which no advocate ought to be ignorant; and we ſhall combine it with the Marine law, and the Cambial law, or law of exchange, as the intimate connexion between commerce,

merce, the marine, and exchange, will not permit them to be ſeparated; for theſe three ſubjects come naturally under one general head. We might diſpenſe with ourſelves from entering into the detail of theſe matters, and refer the reader to the chapter on commerce, in our political inſtitutes, where all its grand principles will be found eſtabliſhed; but as it is not our intention to leave this ſyſtem of general erudition incomplete, and as the buſineſs here, moreover, is not ſo much to treat of laws that might be made in favour of commerce, as of thoſe which already ſubſiſt, and their application, the following analyſis will be found not altogether ſuperfluous in this place.

II. Moſt nations, eſpecially thoſe whom we call, by way of excellence, *Commercial*, have made a great number of laws relative to commerce, the marine, and exchange; of which ſometimes are formed complete codes, and ſometimes ſimple collections, under the title of Ordinances, &c. It is very neceſſary that a lawyer, called to judge theſe caſes of commerce, or to plead mercantile cauſes, ſhould know their laws and regulations, and therefore that he ſhould make them his ſerious ſtudy; and that they alſo, who exerciſe commerce, ſhould know its laws: but I muſt confeſs, that it is unknown to me that this ſubject has ever undergone a regular diſcipline; that its matters have been ranged in a natural order; that the principles of each matter have been properly eſtabliſhed; that the laws relative to them have been collected, explained, and juſtly applied to particular caſes: in a word, that theſe ſubjects have been reduced into a true ſyſtem. If any ſuch work exiſts, its reputation is yet unknown to me.

III. Thoſe nations, that have known the immenſe advantages that reſult from commerce, and underſtand its true intereſts, have readily granted it all the LIBERTY of which it is ſuſceptible: this liberty is the ſoul of every commerce, but it is not however a liberty without limitation; as it is not allowable

allowable for any citizen to trade in whatever he will, and in whatever manner he will; but it is lawful for him to make the utmoſt advantage of his particular traffic, ſo far as it is tolerated by the ſtate, and as it does not interfere with the intereſts of ſociety, and of commerce in general. The liberty of commerce conſiſts, moreover, in ſuch regulations, that each merchant, each ſubject, may previouſly know what merchandiſe, and in what manner it is lawful for him to traffic, without being ſubject to poſterior laws, or to depend on the caprice of a ſovereign or his miniſters. Thus, in England, in France, and in Holland, countries the moſt free, and the moſt commercial in the known world, there are ſeveral branches of commerce that are either totally prohibited, or admitted under certain conditions, and great reſtrictions. The juriſconſult ought therefore to know by the laws of the land, what commerce is there permitted, and under what conditions or reſtrictions.

IV. The LOSS OF TIME is an enormous loſs to commerce in general. We are to ſuppoſe, therefore, 1. That the wiſdom of the legiſlature has provided againſt this loſs; that the laws relative to commerce are neither too numerous, nor too refined: 2. That the form of proceſs in theſe affairs is ſhort, and not embarraſſed with chicanery or formalities: 3. That there are courts particularly appropriated for deciding theſe caſes forthwith: 4. That the ſentences be prompt and brief: 5. That the execution of theſe ſentences be immediate, without difficulty, and without much expence. Judges and advocates ſhould conſtantly keep theſe maxims in view; well conſider and properly apply them.

V. They ſhould alſo be acquainted with the tariff, or book of rates, that are paid for merchandiſes at the cuſtom-houſe. It is not indeed the buſineſs of a lawyer to examine, whether theſe rates be founded on a juſt proportion; that belongs to the financier; but the former ought to know what the laws decree in this reſpect; and from the principle that we have laid down in the preceding ſection, he

ought

ought to take care that the merchant be not liable to loſe his precious time by chicanery, by the vexations and common delays of a cuſtom-houſe; but that every thing be there performed with diſpatch and facility.

VI. The third grand principle for promoting the ſucceſs of commerce is CREDIT, founded on *public confidence*. All the laws ſhould tend to preſerve credit, and to encourage this confidence: every law that ſhackles credit, that curbs this confidence, is defective and abſurd. Every lawyer ſhould ſuppoſe, that the ſpirit of this principle reigns in each law of commerce, and never omit its application to ſuch caſes as may preſent themſelves. It is alſo on this inconteſtable principle, that are founded many maxims of the cambial law, and particularly that confidence which is repoſed in the books of a merchant; and in an infinite number of eſtabliſhed cuſtoms in commerce.

VII. Beſide the written law, there are alſo general cuſtoms founded on the analogy of the law of nations, by which ſeveral matters in the impoſts, and other uſages received in each particular country, are regulated; and with which it is alſo neceſſary to be well acquainted. If any difficult conteſtation ſhould ariſe between a foreign merchant and one that is a native, the deciſion, whether founded on the poſitive laws, or the laws of cuſtom, ſhould conſtantly incline ſomewhat in favour of the ſtranger; becauſe this generous equity is highly proper to extend the confidence and credit of a nation among foreigners, and the ſtate thereby acquires an advantage a thouſand times greater than it would get by favouring its ſubject, and by keeping a trifling quantity more of money in its territories: for, in general, nothing is ſo ſilly and wretched as a covetous deſire of keeping money in a ſtate againſt wind and tide, in thoſe caſes where it might be parted with to advantage; and thoſe caſes occur more frequently than is commonly imagined.

VIII. To preſerve alſo this public confidence, and foreign reputation, thoſe ſtates, that export their

their produce and manufactures, have judged it neceſſary to fix, by particular ordinances the eſſential qualities, that ſuch proviſions or manufactures ought to have, together with their degree of perfection, that the foreign conſumption may not be diminiſhed: eſpecially with regard to manufactures, and the different branches of trade. On the other hand, there are many merchandiſes imported which are in like manner to have certain eſſential qualities, without which they are not ſuffered to be entered, and are even frequently confiſcated. All theſe matters demand a very minute inquiry and great application.

IX. The *coins* are intimately connected with commerce; it is for the ſovereign, aſſiſted by his council of finances, to regulate their ſtandard, their form, their value, and their currency. But the lawyer ſhould not be quite ignorant in theſe matters; he ſhould know the laws and regulations that are made in his own country, by his neighbours, and among the principal nations of Europe, relative to monies; and the principles on which thoſe ordinances have been eſtabliſhed.

X. The *repreſentatives* of monies, or *bills*, have alſo their laws, and the knowledge of them is very eſſential. Among theſe repreſentatives, bills of exchange hold the firſt place, and are immediately connected with commerce. There is no civilized nation that has not made regulations for exchanges, and from thence ariſes the *cambial law*, which requires an aſſiduous ſtudy.

XI. There are regularly four perſons intereſted in every bill of exchange: 1. The *drawer*, who gives or ſells the bill of exchange payable at another place: 2. The *remitter*, who purchaſes this letter of exchange, and ſends it to his correſpondent who is to receive the payment: 3. The *endorſee* or preſenter, who is the correſpondent of the ſtranger, and to whom the receipt of the payment has been aſſigned by the remitter, by writing on the back of the bill, *pay to ſuch an one:* 4. The *accepter*, who is he on whom the bill has been drawn, and who on the firſt preſentation is obliged to write the word *accepted* on this

this bill of exchange, and to pay it when it becomes due. The laws ought always to incline ſomething in favour of the remitter, becauſe he can have no bad intention, being obliged to purchaſe and pay ready money for this paper, on the credit and confidence which he repoſes in the drawer.

XII. The reſt of the cambial law, the explication of the ſeveral terms, and the principles on which each cuſtom is founded, altogether require an extenſive ſtudy: it is proper to know well what is meant by *courſe of exchange*, *broker*, *preſentation*, *proteſting*, *uſance*, *non-payment*, and a great number of like technical terms. An eaſy and expeditious judicature in matters of exchange cannot be ſufficiently recommended.

XIII. The notes that a debtor gives to his creditor, and by virtue of which he obliges himſelf to pay that creditor at the end of a certain limited time, do not properly belong to the cambial law: they are no other than a kind of obligations that demand an exact payment, or ready juſtice, and rather appertain to the civil law.

XIV. Every country that has a navigation has alſo a *Marine Code*, and the contents of this code are very great, as its objects are immenſe. Even its terminology is aſtoniſhing, and the whole requires a particular ſtudy. A juriſconſult however, who dwells among a people that are engaged in maritime commerce, muſt not be ignorant of it: and if in ſuch a country he ſhould find no complete code, he will do well to collect all the marine ordinances that he can find diſperſed, to range them according to their ſeveral matters, to make a good index to them, and to become familiar with them.

XV. The buſineſs of inſurances, averages, of the right of ſhipwrecks, of tolls or cuſtoms, of the functions, duties and rights of pilots, &c. are intimately connected with navigation; and moſt of the codes of commerce, and of the marine, contain laws and ordinances, clear and minute on theſe important objects, which all relate to mercantile juriſprudence, and with which a man of the law, among a commercial people, ought to be thoroughly acquainted.

CHAP.

CHAP. XX.

The Military Law.

I. EVERY Soldier is a citizen or member of the common-wealth, and therefore can have no peculiar privilege, no eſſential prerogative, diſtinct from the other members of ſociety, but what he ſometimes uſurps by force; and ſuch uſurpations are always acts of injuſtice which cannot be formed into laws He is even bound, more than any other ſubject, to maintain good order, and to ſupport the civil laws, becauſe he is paid by his fellow ſubjects to watch over the public ſecurity, and to employ all his force, even at the riſk of his health and his life, to protect them againſt all ſorts of violences or attacks, againſt all dangers exterior and interior. As his duties are very great, and his ſalary very ſmall, there is annexed to the military ſtate a ſecond kind of recompenſe, which is called *honour*, and which ſerves at the ſame time as an encouragement to noble actions: but except this, the ſoldier can have no peculiar privilege, without cauſing trouble and diſorder in ſociety.

II. Military law, therefore, is only that which the ſons of war exerciſe among themſelves, in their proper ſtate, in order to preſerve good diſcipline, and to attain the end which that ſtate propoſes. As there has never yet been a people that have at no time been engaged in war, ſo there has been none that has not eſtabliſhed military ordinances. The ancients have always naturally ſerved as guides to the moderns. Polybius, Vegetius, and, many other ancients, have given the maxims that were obſerved in their times in theſe matters. The moderns have followed them. Juſtus Lipſius has publiſhed a treatiſe *de re militari veterum*, Sichtermann has wrote *de pœnis militaribus*; the works of the chevalier de la Valliere, of Vauban, Montecuculli, Puyſegur, Feucquieres, Quincy, and Folard, are filled

filled with excellent maxims, from whence the principles of this law, and the moſt uſeful ordinances relative to theſe matters, may be drawn. We have likewiſe for the theory of the military law, ſome works that are not in every one's hands, and which it is proper here to make known; ſuch are *Adriani Beieri juris militaris prudentia in formam artis redacta*, 8vo. *Jenæ*; *Hieronymi Imhoffii diſſertationes militares*; *Pappi de Tratzberg corpus juris militaris*; *Eberhardi Hagerii corpus juris militaris*; *and the complete military law of the European powers, by John Frederick Schultz.* This laſt book is wrote in German.

III. But it is proper to caution thoſe who would ſtudy theſe matters, that the ancient maxims are not always applicable to modern circumſtances, becauſe they proceeded from a principle very different from what now ſubſiſts. Formerly when war was determined, they enrolled the ſoldiers, or elſe all, who were able to bear arms in a nation, prepared themſelves for the battle, and, when peace returned, went back to their ordinary employments. The wiſe policy of modern times has changed this matter entirely. The military is become a diſtinct ſtate in ſociety. A number of the inhabitants are devoted to it from their youth, or are engaged in it either voluntarily or by artifice, and ſometimes even by force. Each power has framed *articles of war*, which contain an abridgment of all the duties of a ſoldier, and a *military regulation* much more extenſive, which contains all the duties of the officers. The chaſtiſements for the ſoldiers, and the penalties for the officers who offend againſt theſe regulations, are there very clearly expreſſed. When a ſoldier is enrolled, or an officer engaged, the judge advocate, who is the juſticiary officer in each regiment, reads to him the articles of war, and makes him take, under the colours, not only the oath of fidelity, but that of exact obedience to thoſe articles, which are there explained to him; and to the officers are given the military regulations, that they may learn their duty. It is in conſequence of this

this ſolemn engagement, that the penalties inflicted on offenders are ſo very rigorous, and that a deſerter, for example, is puniſhed with death. As the ſtate militar is a ſtate of violence, and as the ſoldier is always armed, it is natural that juſtice be there more rigid than in the civil ſtate.

IV. The leſſer faults are decided by the chief officer of the regiment, or by the general officers aſſiſted by the advocate. Greater crimes are determined by a council of war, and the ſentence is referred, in the laſt reſort, to the ſovereign, for his approbation and confirmation. As theſe councils of war are compoſed merely of military men of all ranks (except the judge advocate, who ſhould be a profeſſor of, and ſkilful in the law) no great dependence can be at all times put on the ſtrict juſtice of their deciſions. The military laws are, it is true, very clear, but it would ſeem, that the mere good ſenſe of theſe judges is not ſufficient at all times to diſtinguiſh, if the caſe that preſents itſelf be applicable to ſuch or ſuch a law: and frequently an unhappy wretch, clothed in blue, red or white, is ſent to the gibbet, who would not have loſt his life if his crime had been examined by judges better inſtructed, and more verſed in juridical proceedings.

V. A council of war is properly a deputation of military men aſſembled in a body, and forming a tribunal to decide on ſome great or capital crime committed againſt the laws of war. If the offender be of a ſubordinate rank, the council of war is held where the regiment then is, and two deputies of each rank, from the common ſoldier up to the captain incluſive, form a council, under the preſidence of a general officer, and with the aſſiſtance of the advocate. The loweſt ranks give their opinions firſt, beginning with the common ſoldier. But if the offender be an officer of diſtinction, as the commander of a regiment, or a general, the ſovereign then nominates, from the army, a numbe of officers of experience and integrity to form

the council of war. Laſtly, the mareſchals are properly no other than civil judges in an army; they form a court to which are referred caſes of competition: they judge alſo of duels, of affairs of honour, &c

CHAP. XXI.

The Law of the Venery.

I. WE have already ſaid (Ch. 12. § 3) that *laws are the neceſſary relations that ariſe from the nature of things*, it follows therefore, that certain conditions, certain profeſſions in ſociety, ought to have their particular laws, when, by their nature, they are ſo different from other arts and trades, that the legiſlator cannot comprehend, in his general ſyſtem of laws, the rules and ordinances that were neceſſary to them in particular. The venery and the mines are eſpecially in this predicament. It is true, that the rural oeconomy, and almoſt all the other arts, profeſſions, and trades, have their laws, ſtatutes, regulations, privileges, &c which are peculiar to them; but as theſe laws vary in every country, and often in every province, and as theſe ſtatutes and privileges are always loaded with ancient abuſes, and as moſt ſovereigns *prudently* reform and aboliſh theſe old cuſtoms and privileges, and as the detail of theſe matters is immenſe, it is impoſſible to enter into ſuch a labyrinth; which, moreover, does not directly belong to general erudition, and would not a little embarraſs this work. They who would have a complete knowledge of it, ſhould repeatedly conſider the ſtatutes and regulations of all the claſſes of trade in each country. As to what concerns us, we ſhall content ourſelves with treating, as briefly as poſſible, of the law of the venery, and that of the mines.

II. Men

II. Men ſhut up their goods and their cattle in towns, encloſures, within walls and buildings, in cheſts and coffers, to defend them from injury, and to protect them from robbery: but it is impoſſible to guard the foreſts and the game; theſe would be a prey to the firſt invader, if the laws were not extraordinarily rigorous in this reſpect. It is for the ſame reaſon that the ſtealers of cattle, left day and night in the paſtures, are puniſhed with ſo much ſeverity. The officers of the foreſts and of the hunt, who, ſo to ſpeak, inhabit the woods, are alſo inceſſantly expoſed, not only to the intemperature of the ſeaſons, and to all the dangers that attend a ſolitary and ſavage life, but alſo to the attacks of the robbers of the game, and the plunderers of the foreſt; and often likewiſe to thoſe encroaching neighbours, who would purſue the chace by artifice or violence, on the territory of others, and whom the keeper of the foreſt is to repel by oppoſing force to force. It has therefore been found neceſſary to erect ſeparate courts for the affairs of the foreſts, to appoint officers of the hunt, and to eſtabliſh particular laws for theſe various objects; and from all theſe ariſes the law of the venery.

III. He, who would attain a thorough knowledge of this law, ſhould make himſelf acquainted with, 1 The officers of the venery in their ſeveral ranks: 2. The foreſts themſelves: 3. The different woods thoſe foreſts produce: 4. The game that inhabit them: 5 The inſtruments and weapons of which the hunters make uſe: 6. The terminology of the chace: 7. The regulations and ordinances that have been eſtabliſhed by the ſovereign of each country; and 8. The cuſtoms that are obſerved, with regard to theſe objects, in thoſe countries All the books that treat of the chace, of foreſts, and waters, explain theſe matters. The emperor Frederick II. has already wrote a Latin treatiſe on the venery. Touilloux has likewiſe wrote a book, which he intitles *de la Venerie* In France there are a great number of ordinances relative to the chaſe,

among which thoſe of Henry IV. of the month of June 1601, and of Louis XIV. in Auguſt 1669, are remarkable. There is alſo a treatiſe on the law of the chaſe by F. de Launay, profeſſor of the French law, which is a very good one. We have in Germany *the complete hunter, by John Frederic Flemming*; and many celebrated writers, who treat of the oeconomy of the field, have inſerted in their works diſſertations on the venery, and the laws of the chace: and laſtly, this matter is copiouſly treated, both in theory and practice, in a celebrated work entitled *Ahaſveri Fritſchii corpus juris venatorium foreſtale Romano-Germanicum.* All theſe works may be read to advantage, or conſulted occaſionally.

IV. It is to be obſerved alſo, that the law of the venery does not relate merely to the chace, and its appurtenances, but alſo to foreſts, their preſervation, the felling of wood, and the ſeveral uſes to which it may be applied, as the making oils, pitch, aſhes, reſins, charcoal, &c. and in a word, to the ſeveral cuſtoms that appertain to the domain of the ſovereign, the finances and other important objects of government; and all this requires a thorough and extenſive knowledge. It is therefore very neceſſary in a ſtate, that there ſhould be perſons who apply themſelves chiefly to this part of juriſprudence, and make it their ſerious ſtudy.

CHAP. XXII.

THE LAW OF MINES, OR THE METALLIC LAW.

I. ALL thoſe who are concerned in carrying on, and working in mines, may be ſaid to live in a ſubterraneous world: there is no inſtant of their life when they are not in danger of loſing it: their hard and painful labour, and the foul air they breathe, ſhorten their days: ſociety therefore owes

owes no ſmall recompence to ſuch of its members as devote themſelves to an employment ſo laborious and ſo dangerous. It is of conſequence, moreover, to a ſtate, that the cultivators of, and labourers in mines, proceed with all the art, care, and ſucceſs poſſible; as not only the precious metals, but thoſe more common, and of more immediate utility to mankind, and in general all minerals and foſſils, are valuable to ſociety, and tend greatly to enrich that ſtate which finds them in her boſom This double motive has induced legiſlators to make particular laws in favour of thoſe who direct and thoſe who labour in mines: and theſe collectively form what is called the law of mines, or the metallic law.

II. Whoever would apply to the ſtudy of this part of juriſprudence, ſhould conſider, in the firſt place, that the laws of mines were not formed and reduced into a ſyſtem at once, but that they were given and extended in proportion as the mines were more known, and as their rich and fruitful veins became multiplied. The ordinary form of proceſs was not applicable to mines and their workers. All legiſlators, moreover, have reſigned to lawyers the framing of civil inſtitutions, and theſe have conſtantly left the door open to chicanery: they clearly ſee, that their maſters have not aſſigned to magiſtrates, to judges and advocates, ſufficient appointments to live with decency; that their ſalaries are not proportionate to the extent and importance of their labours: it is neceſſary, therefore, to furniſh them with means of prolonging of ſuits, and of augmenting expences in favour of the courts of law; and theſe are what every where pay and ſupport their judges However, as the intereſt of the ſovereign is immediately concerned in the affair of mines, and moreover, as thoſe men, who draw gold and ſilver from the bowels of the earth, are of all others the moſt poor and miſerable, and conſequently the leaſt able to contribute to the ſubſiſtence of the magiſtrate by an expenſive proceſs,

the proceedings in theſe caſes have been retrenched, and the laws have obliged the judges to expedite all their affairs to the greateſt degree poſſible.

III. Mines and their dependencies form, therefore, every where a particular government which is expreſly reſerved to the ſovereign of the place. There are eſtabliſhed ſeparate departments, courts ſuperior and inferior, and divers magiſtrates, for the mines; which have all their particular laws, cuſtoms and privileges. It is alſo prohibited (eſpecially in Germany) to move any proceſs, that ariſes relative to the mines, to another court, even by way of appeal: ſo that the metallic law may be juſtly conſidered as totally diſtinct from all others. He, who would make this law his ſtudy, ſhould firſt learn the names, titles, and functions of all the magiſtrates and officers that are employed therein; which, conſidering their diverſity and uncommon denominations, muſt be ſufficiently embarraſſing.

IV. It is manifeſt, moreover, that the deciſion of mineral and metallic affairs depends alſo on a knowledge of mines and metals, and of the manner of working them; and this knowledge is founded on the principles of phyſics, and on much experience. It is therefore neceſſary to have not only a good theory of natural philoſophy in general, but repeatedly to read over the beſt books that treat of mines, of metallurgy, of ſubterraneous geometry, of the hydraulics and hydroſtatics of mines, of mechanics, of the ſeparation of metals, &c. We ſhould alſo endeavour to retain, if poſſible, the terms of art, which in this ſcience are prodigiouſly numerous. When we are thus fully inſtructed in the art itſelf, in the language and buſineſs of mines, we ſhall ſtudy with ſucceſs the laws that reſult therefrom.

V. The laws, the uſages, and cuſtoms received in the various mines in the different quarters of the globe, are not every where the ſame. In America, for example, they are worked by African ſlaves, whom

whom their European maſters, or rather tyrants, treat with a ſeverity that is ſhocking to nature. In Aſia, and in ſome countries of Europe, they are the criminals, vagrants, and profligates, who are condemned to this painful labour. In other countries, they are vaſſals or bondmen, and the moſt deſpicable part of the inhabitants. In other countries again, as in Saxony, in the Hartz, and elſewhere, they are free and reſpectable inhabitants, who make it their trade This diverſity of cuſtoms naturally occaſions a great diverſity in the laws appropriated to it. There is in Germany a *Corpus juris, et ſyſtema rerum metallicarum*; which he, who applies himſelf to this part of juriſprudence, ſhould make the foundation of his ſtudy. He may alſo conſult the *Speculum juris metallici of Sebaſtian Span*; the treatiſe of *Baron Lyncker, de Juribus minerarum*; the diſſertation of M. *Horn, de Libro Metallico antigrapho*, and many other works of the ſame kind.

VI. By theſe means the ſtudent may acquire a general and well grounded theory of mines, and of the metallic law. But, as in this ſort of ſubjects it is neceſſary to ingraft, if I may ſo ſay, a good practice on a ſolid theory, he would do wiſely not to content himſelf with the information of books, or the lectures of profeſſors, but to tranſport himſelf to the ſpot, to deſcend into the mines, and to ſee with his own eyes all their various operations; inſtructing himſelf at the ſame time in the particular conſtitutions, laws, and orders relative to theſe matters, in each country, that have been decreed by the ſovereign, or that old time has eſtabliſhed.

CHAP. XXIII.

The Criminal Law.

I. THE aſſemblage of the laws, ſtatutes, uſages and cuſtoms, that relate to aſſaults and injuries, forms what is called the *Criminal Law*; and the buſineſs of interpreting this law, and applying it to offences, as they ariſe in ſociety, is called *Criminal juriſprudence*. A man may be attacked or injured by others, after three manners; either in his *goods*, and from this ſort of injury he is defended by the civil law; or in his *reputation*, from which he is defended by the laws againſt obloquy; or in his *health* or *life*, againſt which he is protected by the criminal laws, and which likewiſe extend to all malefactions that may injure ſociety or the public tranquillity.

II. If men were not liable to inordinate paſſions, if we lived in a Platonic republic, there would be no need of criminal laws; but as matters are now circumſtanced, it is only by the rigour of chaſtiſements that the good citizens can be protected from the malice or violence of the bad. It is not here the place to examine, if the moſt rigorous puniſhments, eſpecially that of death, of a violent and excruciating death, be founded on the original ſtrict law of nature; and whether a man can cede or transfer to another man, call him ſovereign, judge or magiſtrate, the right of putting to death, which is a right that he does not poſſeſs over himſelf: it is ſufficient to obſerve here, 1. That the welfare of ſociety, and the public ſecurity, require ſevere puniſhments for atrocious crimes: 2. That every inhabitant knows the penalties preſcribed by the law; and that it depends on himſelf to avoid them: 3. That in becoming a member of a political ſociety, he ſubſcribes, either expreſsly or tacitly, to the laws that therein ſubſiſt: 4. That the moſt part of criminal puniſhments are preſcribed by

by the divine laws: 5. That they are confirmed by the almoſt unanimous conſent of all civilized nations: And, 6. That they have been found neceſſary for the maintenance of ſociety in general, from the earlieſt accounts that we have of the world.

III. We cannot, however, avoid making a few remarks, as they are eſſential to this ſubject: which are, That very ſevere chaſtiſements are a conſtant mark of a tyrannical government; that, in puniſhing the guilty, we ſhould not purſue an unlimited ſeverity; that the invention of new and barbarous puniſhments is repugnant to humanity; that no judge has a right to inflict any other pains or penalties, than what are preciſely preſcribed by the law; nor to repeat the eſtabliſhed chaſtiſement for one and the ſame crime; and laſtly, that the interpretation and application of the law ought, conſtantly, to incline ſomewhat in favour of the unhappy criminal; as it is much better that ten guilty go unpuniſhed, than that one innocent man ſhould periſh: and that it is a baſe and infamous ſpirit of vengeance, unworthy of the laws of a ſovereign, to inflict inſupportable puniſhments on a guilty wretch; for when we puniſh with death, we ſhould, if poſſible, avoid every kind of torture, which nothing, but the hope of deterring others from being guilty of the like crimes, can in the leaſt juſtify; for, as Luther very juſtly obſerves, *If there were no puniſhments in ſociety, no honeſt man would dare to put his head out of the window.*

IV. The laws of different countries, and different ages, have not inflicted the ſame puniſhments for the ſame crimes. Theft, for example, was not puniſhed by death among the Hebrews, according to the law of Moſes; but an adulterer was ſtoned to death. In France, on the contrary, a domeſtic thief is hanged for a trifle, but the adulterer is diſcharged, with at moſt a reprimand from a ſnuffling confeſſor, whom he deſpiſes The reaſon is obvious. The Jews have ever been a people addicted to larceny and fraud; their laws, therefore, have

not been ſevere againſt their favourite vice. The French are a people of gallantry, who think there is no ſuch thing as inviolable love; and that the conjugal bond for life is a contract too ſtrict for human nature to endure. The Saxon laws condemn the adulterer to have his head ſtruck off; and as this abſurd law has never been repealed, the judges are obliged to pronounce ſentence according to the letter of it; therefore, when this caſe now occurs (and from the weakneſs of human nature it frequently occurs) the judges take particular care to preſent their ſentence to the ſovereign for his ſignature, at thoſe moments when he is in good humour, and to add recommendatory letters at the ſame time, in order to prevent the diſgrace of ſo ridiculous a law ever being carried into execution.

V. From all theſe reflections we ſhall here draw only one inference, which is, that criminal laws cannot be derived from the ſtrictly abſtract law of nature. Their firſt principle ariſes at moſt from that of ſociety; the ſecond from the manners of each people; the third from the political ſituation of each nation, and the intereſts that reſult from it; the fourth from the will of the ſovereign; the fifth from that of long cuſtom; and the ſixth from the law of Moſes, which modern legiſlators call divine, and which, however, they follow no longer than they think proper.

VI. Whoever, therefore, would apply himſelf to criminal juriſprudence, ſhould begin by ſtudying thoſe laws relative to it, which ſubſiſt in the country where he intends to eſtabliſh his reſidence: but as thoſe laws are partly natives of the country, and partly adopted from foreign nations, he ſhould previouſly form a good ſyſtem of the general theory of criminal law; and on this ſubject we propoſe here to throw ſome elucidations.

VII. Although we have ſaid, that he ſhould inſtruct himſelf in the laws that were anciently in uſe, and in thoſe which now ſubſiſt among other modern nations,

nations, it muſt not be imagined, however, that thoſe laws are either infallible or univerſally applicable: for it is here neceſſary, even much more than in civil laws, to pay great attention to the time, to the place, to the form of government, and to the manners and intereſts of the people for whom each law was made. The rigour of the Roman laws, with regard to ſlaves, was enormous; it muſt therefore be rejected by the civilized nations of modern Europe. In France, in England, and in ſome other countries, a reproach, a reprimand, a diſgrace, makes a ſtrong impreſſion on the mind, and has greater effect in preventing the encreaſe of crimes, than the wheel and other moſt cruel tortures have in deſpotic governments. It is therefore neceſſary to know the true meaning and ſpirit of a criminal law, before we attempt to interpret or apply it. We ſhould well underſtand the *language* in which it is wrote; we ſhould be maſters of a ſound *logic*; accuſtom ourſelves to a *philoſophical* manner of thinking; have the neceſſary knowledge of *philology*, or of the etymologic and critical art; of the *hiſtory of the law*; of the *antiquities* and *cuſtoms* of different nations; nor ſhould we be totally ignorant of the *medical art*, nor of *theology*, that we may be able to reſolve the various difficulties which may ariſe, and to make a juſt application of theſe laws to ſuch caſes as may occur, and are relative to them.

VIII. It will not be expected, in a work which we ſhall endeavour to make as univerſal as poſſible, that we ſhould enumerate the criminal laws that are eſtabliſhed in every country; and ſtill leſs, that we ſhould give their analyſis. That is the buſineſs itſelf of the ſtudy of the criminal law. We ſhall confine ourſelves here with only citing, as an example, *The Criminal Conſtitution of the Emperor Charles* V. which was firſt ſketched by the emperor Maximilian, propoſed to the ſtates of the empire aſſembled at Worms in 1521, taken again into conſideration, digeſted and augmented at the diet of Spire

Spire in 1529, and laſtly publiſhed in form of a law in 1532. This criminal conſtitution, which is called *Conſtitutio Carolina*, is the baſis of all the criminal laws of Germany; though ſeveral princes of the empire, by virtue of their right of territorial ſovereignty, have altered it conſiderably in their reſpective ſtates. We have a correct edition of it, with a very good Latin commentary, which is the work of counſellor and profeſſor Kreſſe of Hanover. This is a book that is not only indiſpenſable to the German lawyers, but may alſo ſerve as a guide to thoſe of other nations, who will there find the ſolid and comprehenſive principles of criminal juriſprudence in general.

IX. When the ſtudent has acquired the knowledge of the criminal laws, he ſhould form a good ſyſtem of the crimes, tranſgreſſions, and injuries to which theſe laws relate. The principal of which are, 1. Theft, either with or without burglary, larceny, &c.: 2 Sacrilege: 3. Rapine, or theft attended by a violation of the public peace 4. Manſtealing, which the Latins call *plagium*: 5. Beaſtſtealing, whether they be domeſtic animals, as horſes, or deer or any other game: 6. Carnal tranſgreſſions, in general: 7. Fornication: 8. Concubinage: 9. Adultery: 10. Bigamy and polygamy: 11. Violation of virginity: 12. Violations of chaſtity: 13. Sodomy: 14. Inceſt. 15. Procuration: 16. Injuries real, verbal or written: 17. Blaſphemy: 18. Libels: 19. Duels: 20. Homicide, whether involuntary or premeditated; if with a deſign to rob, or without that deſign: 21. Way laying: 22. Aſſaſſination: 23. Parricide: 24. Regicide: 25. Expoſing of infants: 26. Procured abortion: 27. Procured ſterility: 28. Poiſoning: 29. Suicide; and mutilation offered to our own bodies: 30. Fire-raiſing: 31. Magic: 32. Falſification, in general: 33 Falſe coinage: 34. Forgery: 35. Perjury: 36. Fraud of every kind: 37. Fraudulent removement of boundaries: 38. Fraudulent bankruptcies: 39. Double-dealing: 40. Treaſon, of the firſt or ſecond degree: 41. Per-

41. Perduellion, or an attempt againſt the ſecurity of both the ſovereign and the ſtate: 42. Sedition and tumult: 43. Acts of violence: 44. Violation of the public peace and tranquillity: 45. Violation of the ſacred character which the law attributes to certain perſons and places: 46. Encouraging the deſertion of ſoldiers, or the eſcape of priſoners: 47. Eluding the payment of public duties: 48. Infidelity of miniſters, or other perſons employed in the ſervice of the ſtate: 49. Breach of military diſcipline: 50. Violation of the ordinances of the marine: and numberleſs others, which are comprehended under ſome of the foregoing.

X. After having formed a juſt idea of the nature of all theſe crimes, and of that which conſtitutes their characteriſtics, we paſs to the examination of the pains and penalties, that the legiſlators of different ages and countries have decreed for their puniſhments: and theſe are divided into *capital* and *not capital*; *corporal* or *diſgraceful*; ſuch as deprive the tranſgreſſor of *liberty*, and ſuch as are *pecuniary*. By the general refinement of manners in Europe, humanity has become one of its cuſtoms; and modern laws reject many of the barbarous puniſhments of the ancients, ſuch as lapidation, crucifixion, poiſoning, condemning to wild beaſts, *ad beſtias*, and many other like horrors. As it is ſuppoſed with reaſon, that the law, which gives to ſovereigns the right of putting their ſubjects to death, is not ſtrictly juſt, it is ſtill much leſs ſo to give them the power of inflicting accumulated tortures, which are ſhocking to human nature, and which even the plea of example cannot juſtify: all that ought to be permitted is, to accompany the puniſhment with thoſe mournful and tremendous circumſtances, which are capable of making ſtrong impreſſions on the minds of the people. The codes of criminal laws of each nation contain enumerations of theſe puniſhments; but let us turn our eyes from ſuch horrors, and let not this work be polluted with their deſcription.

XI. When-

XI. Whenever the matter concerns the life, or what is perhaps more precious than life, the honour and liberty of the ſubject, the judge cannot be too circumſpect; and when a crime is clearly proved, he ought well to regard the ſeveral circumſtances attending it; for each of theſe either aggravate or extenuate the guilt, and conſequently the puniſhment. For the ſame reaſon, the proceſs againſt a criminal ſhould be made, according to all the rules preſcribed by the law, before a competent judge, with all the requiſite formalities, and every poſſible precaution: and this obliges us, alſo, to ſay ſomething here with regard to the form of proceedings againſt criminals.

XII. Criminal juriſprudence furniſhes the neceſſary rules and inſtitutions relative to the following ſubjects, 1. Criminal juriſdiction, in general: 2. Criminal tribunals, in particular: 3 The judges, officers, attornies, proſecutors, defendants, &c. 4. The conſtitution of the court: 5. The accuſatory proceſs: 6. The inquiſitory proceſs: 7. The ſeizure of the offender, and of the contriver of offence: 8. The evidence: 9. The impriſonment of malefactors, and the purſuit of thoſe that eſcape: 10. The nature of impriſonment, and the means of avoiding it or making it leſs grievous: 11. The examination of the accuſed: 12. The articles of inquiry, and the anſwers of the accuſed: 13 The confeſſion of the accuſed: 14. The proofs of the crime, whether by evidence, by writing, or by circumſtances: 15. The confrontation: 16. The defence of the accuſed: 17. The different methods by which an accuſed may purge himſelf of an imputed crime: 18. The different kinds of tortures for the diſcovery of the truth: 19. The horror of the *queſtion*, its different degrees, and its dreadful impreſſion: 20. The manner of the accuſed purging himſelf, by oath, from an imputed crime: 21. The ſentence, and the manner of drawing it up: 22 The publication of the ſentence: 23. The effects of the

ſentence;

ſentence: 24. Baniſhment, its formalities and effects: 25. The execution of the ſentence, and the ſolemnities or circumſtances with which it is attended: 26. The criminal proceſs againſt thoſe that are abſent: 27. Safe conduct: 28. Edictal citation: 29. Criminal judgments in military matters: 30. The preſcription of crimes: 31. The abolition of offences, and the other manners by which a criminal proceſs is ſuſpended or diſcharged: 32. The expence of a criminal proceſs; and many other like matters.

XIII. They, who are ſolidly inſtructed in all theſe points, may be ſaid to poſſeſs a good theory of the criminal law; and, if Heaven has given them *a juſt diſcernment and candid judgment*, they will excel in the practice of it. It only remains to give one advice to all thoſe whom Providence has called to this important and painful function, which is, to obſerve all imaginable moderation and circumſpection in the uſe of torments in general, and of the *queſtion* in particular; let them be well perſuaded that it is an ancient prejudice, a notion unworthy of regard, to think that a criminal ought not only to be convicted *(convictus)* but alſo *(confeſſus)* condemned by his own confeſſion: for this confeſſion amounts to nothing. If he be convicted on clear and ſolid proofs, that conviction is ſufficient: and if the conviction be not clear, manifeſt, without doubt, without ambiguity, his own confeſſion will not add the leaſt proof; ſeeing that in this caſe it would be in the power of every one accuſed to prolong his life, eſpecially if he has a conſtitution ſufficiently ſtrong to endure the torture, as is commonly the caſe of hardened villains; or by ſuffering himſelf to be tortured to death, make his ſovereign become guilty of an infamous injuſtice. In ſhort, the evidence of a man *in propria cauſa* is of no validity, does not furniſh the moiety of a proof, and nature revolts at the mere thoughts of the *queſtion*. The infamous Damien ſaid, when expiring in the midſt of unheard of tortures, *you forget that you are men.*

men. The moſt criminal of mankind gave a leſſon of juſtice: and when, by the aſſaſſination of Henry IV. the whole people was ſo enraged againſt Ravaillac, that the company of butchers offered to flay him alive, by artfully taking off the cuticle, that he might be then expoſed to flies and bees; the parliament decreed that ſuch a puniſhment would be diſgraceful to humanity.

XIV. Let us finiſh this ſubject, ſo important to mankind, with a ſhort extract from the tratiſe on toleration, by M. Voltaire. He there ſays, that he ſows a grain which may one day produce a harveſt. Let us here endeavour to multiply this precious grain. Theſe are his words: "Some other tribunals have an odd kind of juriſprudence; they admit of the fourth, the third, and ſixth part of a proof. So that with ſix hearſays on one ſide, three on the other, and four parts of preſumption, they will form three complete proofs; and on this curious demonſtration they will break you a man on the wheel without mercy. A ſlender knowledge, in the art of reaſoning, would be ſufficient to make them take another method. What they call a demi-proof, can be no more than a ſuſpicion: ſtrictly ſpeaking, there is no ſuch thing as a demi-proof; either the matter is proved, or it is not; there is no third way. A hundred thouſand ſuſpicions united can no more eſtabliſh a proof, than a hundred thouſand cyphers can compoſe a number. There are quarters of notes in muſic, though they cannot be performed; but there are no quarters in truth, nor quarters in reaſoning. Two witneſſes, who maintain their depoſitions, are conſidered as a proof, but this is not ſufficient; theſe two witneſſes ſhould be without paſſion, without prejudice, and above all, what they ſay ſhould not be repugnant to reaſon.——There is no remedy for ſuch a juriſprudence, except they who purchaſe the right of judging mankind, or who have the confidence to preſent themſelves, in order to

"obtain

" obtain it of the ſovereign, under the title of " gratification, ſhall hereafter apply themſelves to " better ſtudies."

CHAP. XXIV.

Of certain parts of general JURISPRUDENCE; and 1. Of the particular civil laws of the principal ſtates of Europe: 2. Of the laws of conquering nations in their colonies: 3. Of the law of cuſtom, and of the municipal laws of cities: 4. Of the form of proceedings: 5 Of the proceedings before the tribunals of the German empire.

I. WE ſhall combine, in this chapter, certain parts of juriſprudence, which have not much relation to each other, and parts alſo on which we think we ought not to be particular, as it ſeems to be only neceſſary to mention them, in order to diſcover, at one view, all the extent of their juriſdiction, without having any occaſion to enter into much detail to make their analyſis.

II. There is no people on the earth that have not their national laws. The moſt rude among the ſavages have at leaſt a cuſtomary law; and even a kind of law of nations that they obſerve. The *Statiſtic* *, or the ſcience of the political ſyſtem of the different ſtates of the world, teaches us what are the particular laws of each country; and the juriſconſult may from thence draw the neceſſary inſtructions as he ſhall find occaſion. We have already mentioned, in more than one place, what he ought to do when he would eſtabliſh his reſidence in any particular place; for all the juriſprudence of a lawyer will be merely ſpeculative, and even frivolous, if he do not apply himſelf to the ſtudy of the

* We ſhall give the analyſis of this in chap. 13. of b. 3.

national

national and municipal laws of the country he inhabits.

III. Moſt of the principal nations of Europe are alſo in poſſeſſion of conquered countries, and have their colonies. Theſe colonies conſiſt of people of both ſexes, and of all conditions, who are ſent to countries, either newly conquered or newly diſcovered, to inhabit and to cultivate them. We may conſider theſe colonies from three different points of view. The firſt, as ſerving to diſcharge a country of its inhabitants, when they appear to be ſo numerous that they cannot conveniently ſubſiſt together: the ſecond, as thoſe whom a victorious prince and people are uſed to eſtabliſh in the midſt of conquered nations, in order to keep them in better ſubjection: and a third, which may be called the colonies of commerce, as traffic is there the only object. Since it has been known in Europe, that a country can ſcarce poſſibly have too many inhabitants, and ſince the ſalutary progreſs of luxury or refinement, all thoſe hands, that formerly ſeemed to be ſuperfluous, are now very uſefully employed: and as, ſince the introduction of ſtanding armies, the conquered people are kept in ſubjection by garriſons and regular troops, there are now no other colonies than thoſe of commerce, which the European nations ſupport in the other three parts of the world. M. Melon in his eſſay, chap. iv. divides them into two ſorts, the one, where the government does not eſtabliſh forts and factories merely to keep them in ſubjection, but for the ſecurity of their commerce with neighbouring nations: the other, where one nation conquers another, and ſends inhabitants in order to repeople it.

IV. It is very natural that all theſe different colonies ſhould have their particular laws, by which they are to be governed. We find theſe laws, not only in the ſeveral codes that the different nations have made, but alſo, by way of extract, in the *Univerſal Dictionary of Commerce by Savary*; in the *Parfait*

Parfait Negociant, and in the other works of that able and laborious writer. The *Code noir*, or Black code, being not only highly celebrated, but furniſhing the idea of a new kind of colony and plantation, we ſhall here make a ſhort analyſis of it, merely to give our readers a general idea of this ſort of legiſlation, and of the law that reſults from it. The code noir is an ordinance of Lewis XIV. of the month of March 1685, touching the government, adminiſtration of juſtice, and the police of the French iſlands in America, as alſo concerning the diſcipline and commerce of the negroes and ſlaves of thoſe countries. It was publiſhed at St. Domingo, May 6, 1687. The importation of negroes makes the principal object of traffic, that the Engliſh, French, and ſome other nations have on the African coaſts; and it is for this commerce that are formed the Aſſiento companies of Guinea, of Senegal, and other parts of Africa, &c. Theſe negroes, who are unfortunate ſlaves, and unjuſtly ſubjected to a painful yoke, are tranſported from the coaſts of Africa to the iſles and continent of America, of which they make the greateſt wealth: the culture of tobacco, of ſugar, of coffee, of indigo, and of many other rich productions, and even the working of mines, are not too much for the induſtry, ſtrength and patience of theſe people. Every commercial nation has, therefore, made particular laws and ordinances for their reſpective colonies, ſome more or leſs wiſe, more or leſs rigorous, than others.

V. The code noir is a particular ordinance for the French iſlands of America, which make a part of the Antilles. It conſiſts of ſixty articles, which may be divided into ſeven heads. The firſt contains fourteen articles, and relates to matters of religion, and the ſtate of the children of a father and mother, the one a ſlave, and the other free. The ſecond, of ſeven articles, treats of the public law, particularly of carrying arms, of the aſſembling of the ſlaves, of prohibiting them from ſelling the

ſugar

ſugar canes, even with the permiſſion of their maſters, and of other fruits and proviſions without their permiſſion. The third, of ſix articles, ſhows the duty of maſters toward their ſlaves, and with what the former are obliged to furniſh the latter. The fourth, which contains only four articles, determines the right ſlaves have to acquire any property, and to whoſe advantage; of their traffic, and *pecule*, that is, what they acquire by frugality; of their incapacity to teſtate, or make a will, or to inherit; or enjoy any office; or to be admitted as evidence in a court of juſtice. The fifth, of twelve articles, regards the method of criminal proceſs againſt the ſlaves, and the penalties that the maſters incur, who kill them. The ſixth, of eleven articles, regulates the quality that ſlaves have among the effects of thoſe to whom they belong; where they are regarded no otherwiſe than as goods or chattels. It treats alſo of the buying, ſelling, and real ſeizure of plantations of ſugar, indigo, &c. in which the negroes work; of the power of redemption and feoffment, and of the guardianſhip of the children of gentlemen and tradeſmen, and of their ſlaves. The ſeventh and laſt head treats of the manumiſſion of ſlaves, of their rights when made free, and of the reſpect which they owe to their ancient maſters. The ſixtieth and laſt article, which may be conſidered as the eighth head, is the ordinance of penalties and confiſcations that have not been appointed by any other article. There are, moreover, other ordinances and edicts for the other French colonies in Aſia, Africa, and America; as the edict of the month of March 1724, which regulates the adminiſtration of juſtice, the police, diſcipline and commerce of negro ſlaves in the province of Louiſiana.

VI. We ſhall only obſerve on all theſe, 1. That it is almoſt neceſſary that the laws in all the colonies ſhould have a rigorous tendency, becauſe the natives in a ſubjected country, and the ſlaves who are tranſported thither, are ſo numerous, ſo formidable, and ſo well acquainted with the country,

try, its avenues, its retreats and places of refuge, in compariſon of the ſmall number of their European maſters, who are there eſtabliſhed, that theſe would be in continual danger of being exterminated or driven out by their ſlaves, if the laws did not protect them, by keeping the latter in the moſt ſevere ſubjection: 2. That not only they who adminiſter juſtice, and they who follow the buſineſs of the law in the colonies, ſhould be perfectly acquainted with theſe laws, but ſuch European lawyers alſo, as live among thoſe nations on whom theſe colonies depend; ſeeing that all doubtful caſes in the capital, and all thoſe that ariſe from objects of commerce relative to the colonies, depend on theſe laws, and are determined, ſometimes by analogy, and ſometimes by the letter of the law.

VII. We have already obſerved, in more than one place, that, independent of the written laws, ſeveral countries or provinces are governed by cuſtom, or cuſtomary right, and we ſhall here briefly explain our ideas on this ſubject. In a juridical ſenſe, by the word *Cuſtom, is underſtood a particular or municipal right, eſtabliſhed by uſage in certain provinces, and which has the force of a law from the time that it is reduced into writing.* This right is very common in France eſpecially, and the diverſity of cuſtoms is alſo very great in that kingdom. Authors are little agreed on their particular origins: all that we certainly know of this matter is, that the firſt digeſt of the cuſtoms of France, by public authority, was made under Charles VI by M. Rouillard; the ſecond in conſequence of the ordinance of Charles VII. given at Montil les Tours in 1453; and in the year 1577, the eſtates, aſſembled at Blois, demanded the reformation of cuſtoms, and obtained it, in 1583, for theſe of Normandy. M. Bruneau has given a chronological table of cuſtoms, and has marked in what year each of them was digeſted. Bartolus ſays, that the cuſtoms have been introduced to augment or controul the common law. At this day, the general cuſtoms of

France

France are compriſed in four large volumes; and by all theſe different digeſts, what was at firſt no more than a uſage, is become a written law, founded on antiquity.

VIII. Cuſtom, in general, is a frequent repetition of homogene or ſimilar actions; and in law it is a repetition, during a long courſe of years, of deciſions that are uniform, and drawn from the ſame principle, for ſimilar caſes. It is not in France alone that cuſtom ſtill ſubſiſts, it is in force in many courts of juſtice among moſt of the other civilized nations of Europe, and ſtill more among thoſe that are leſs civilized. When we ſee ſo many reſpectable nations follow the law of cuſtom, we are tempted to think that their ſovereigns have not time to make determinate written laws for the ſubjects they govern. Be that as it may, it is clear that the ſtudent in the law ought to inform himſelf of the written cuſtom, as well as that which is not written, but ſubſiſts merely by uſe, and which has often the force of a law: but it is clear alſo, that there is no giving rules for the method of acquiring the knowledge, nor of forming an analyſis, of that which is mere cuſtom

IX. To what we have ſaid *on the form of proceſs*, in other parts of this book, eſpecially in the ſeventh and following ſections of the chapter on the practice of law, we ſhall here only add, that we thereby underſtand *certain rules eſtabliſhed by ordinance, which are to be obſerved in juridical proceedings.* Now, as theſe rules vary not only in each country, but alſo in the ſeveral tribunals in the ſame country, it is impoſſible to give the juriſconſult univerſal maxims that may guide him in this anfractuous path. It was neceſſary to eſtabliſh certain rules in order to introduce regularity and uniformity in a proceſs; it was neceſſary by theſe rules to guard the judges againſt every ſurpriſe from the parties or their advocates; it was neceſſary to bridle the impatience of the clients, and to give the ſpur to the indolence or negligence of their advocates; regulations were therefore neceſſary in the adminiſtration of juſtice, but that

that it ſhould be a rule in law, that *the form is of more importance than the matter*, that a man of probity ſhould loſe a cauſe manifeſtly juſt, becauſe he or his advocate ſhall have omitted certain formalities, are maxims that are deteſtable, that are repugnant to common ſenſe and natural equity, and in the laſt degree baneful to ſociety.

X. The delays, the formalities, and the expence of a proceſs before the tribunals of the Germanic empire (the imperial chamber of Wetzlar, and the aulic council of Vienna) are above all unjuſtifiable. But as the cauſes that are brought before theſe courts, or moved thither by way of appeal, in the laſt reſort, are only thoſe of the firſt importance, the injury that reſults to ſociety is not ſo great, nor ſo general. The form or rules of proceedings, in theſe two ſuperior tribunals, are preſcribed by the ordinances of the empire or emperors. That which concerns the chamber of Wetzlar, is known in Germany under the Latin title of *Ordinatio Cameralis:* we have a good edition of it, with a uſeful commentary, that is the work of *Julius Magenborſt*. The plan of this ordinance of the imperial chamber, of the year 1613, has alſo been publiſhed by *Jacob Blume*; and the ſame author has given, in 1666, a collection of its ordinary deciſions: the laſt receſſion of the empire, of the year 1654, with the commentary of Textor, may alſo be conſulted to good purpoſe. Laſtly, Gailius, Mynſinger, Wurmſer, Hartmann, Mauritius, and many others, have made learned diſſertations *de judicio camerali*, that deſerve to be read.

XI. The ordinance that directs the aulic council in the form of its proceedings, is celebrated among the German lawyers under the title of *Ordinatio judicii aulici:* it was publiſhed by the emperor Ferdinand III. in the year 1654. *Gailius* in his obſervations, *Mauritius* in his diſſertations *de Cæſareæ Majeſtatis et Imperii judicio aulico*, and *Sprenger* in his *Ellychnium*, have deſcribed this inſtitution, and have explained it by notes and commentaries.

mentaries. Many profeſſors in the German univerſities expreſsly teach *the method of conducting a proceſs before the tribunals of the holy empire:* and we muſt not omit to adviſe thoſe ſtudents, who would fix their reſidence in Germany, to make in it a complete courſe.

CHAP. XXV.

1. Of the Practice of the Law; and 2. Of consultative and judicatory Jurisprudence.

I. THREE ſorts of vocations, each different from the other, attend the diſciple of Themis, on his arrival at the goal of his career of ſtudy. He is called either to teach the law in the chair of a *profeſſor*, or to plead before the tribunals in quality of an *advocate*, or to judge cauſes, civil and criminal, as a *magiſtrate*. Each of theſe ſtations requires a particular *practice*, founded all on the ſame general theory of law, with which we ſuppoſe the ſtudent to be well furniſhed, before he aſſumes either of theſe offices in ſociety.

II. The *profeſſor* ſhould make a judicious choice of the matters he would teach, and not meddle with thoſe of which he has not made a very aſſiduous ſtudy. As in thoſe univerſities where a due regulation is obſerved, there are profeſſors for each branch of a ſcience, and as it is advantageous for the ſtudent to make a complete courſe in every part of the law, or at leaſt in thoſe that are moſt eſſential, the profeſſors ſhould agree among themſelves on the ſubject that each of them ſhall teach, in order that from the whole a complete ſyſtem may ariſe. Every man of erudition, who teaches the ſciences to others, ſhould alſo accuſtom himſelf to a good method in explaining them. He ſhould well remember that the ſtudent does not come to the univerſity

univerſity but to acquire the foundations, the principles of ſcience, and that his own reading, his private ſtudies and reflections muſt furniſh the reſt; that it is therefore eſſentially neceſſary to make uſe of a ſtile nervous and conciſe, and of a method that is clear and ſimple, and free from reflections that are trifling or pedantic, and ſometimes as inſipid as learned: that which is uſeleſs or frivolous ought never to hold the place of the eſſential and the neceſſary. The courſe in every ſcience, how complicate ſoever it may be, ought by all means to be compleated within the year: for prolixity is the ſame in the proceſs of a ſcience as in a ſermon or other diſcourſe; not the leaſt trace of it ever remains in the memory: and no man that ſpeaks in public is long in his harangue, but becauſe he wants art or induſtry to be ſhort, that is, to concenter his ideas.

III. It is a cuſtom in Germany, and a cuſtom highly rational, to ſend to the juridical faculty of ſome celebrated univerſity, the report of any capital proceſs that is abſtruſe and embarraſſing; this faculty examines the report, judges the cauſe in the laſt reſort, dictates the ſentence in the name of the ſovereign of the country, and ſends it back to be publiſhed. The faculties of the law become by this means the tribunals, and what is more, the ſuperior tribunals, frequently even without appeal. The court conſiſts of a director and the ordinary profeſſors of the juridical faculty; each member becomes advocate and judge at the ſame time, and in that double capacity has all thoſe duties to perform that we ſhall explain in the ſequel of this chapter.

IV. The natural buſineſs and duty of a good *advocate* is, 1. To explain, to thoſe who have litigious concerns, and who would commence a proceſs, and come to conſult him thereon, the juſtice or injuſtice of their cauſes, according to the rules of law and equity: 2. To point out to them the beſt method to obtain juſtice: 3. To inform them

of the moſt efficacious means of obviating all the chicaneries and artifices of their adverſaries: 4. To prevent them, as far as poſſible, all uſeleſs expence in the courſe of the proceſs. From this true point of view, the practice of the law requires, 1. A complete theory of juriſprudence, and an extenſive knowledge of the law: 2. A perfect acquaintance with what is called *the courſe of juſtice*, or the manner of conducting a proceſs: 3. A knowledge of the chicaneries, artifices, and ſnares, by which an iniquitous judge, or an artful advocate of the adverſe party, might pervert and corrupt the law, in order to oppoſe the neceſſary precautions; which are called in the language of the courts *Cautelæ*: 4. A candor and a probity proof againſt all temptation.

V. But away with thoſe ignorant wretches whoſe whole ſcience conſiſts in chattering a tinſel jargon, who having got by rote a certain number of law axioms, and juridical phraſes (of which there are many collections printed), throw them about like ſquibs on all occaſions and every opportunity; and who, by favour of this traſh, paſs themſelves on the vulgar for able lawyers; abuſing the faith of their innocent clients, by leading them into unjuſtifiable actions; and knowing neither the law itſelf, nor the method of conducting a proceſs to advantage, plunge them into an abyſs of chicanery and ruinous expence! Far be hence thoſe baſe ſouls, thoſe artful cheats, who, underſtanding their buſineſs, cauſe the ſame evils by deſign, and merely with a view to enrich themſelves at the expence of the honeſt part of mankind! There is too great a number of theſe bloodſuckers, of whom it may be ſaid, *They ſow not, neither do they reap, but they are ſupported, however, by the demon of chicanery.* As hewers of wood, and drawers of water, they would be uſeful citizens; but in the quality of advocates they are the peſts of ſociety.

VI. Advocates of known ability, being too much engaged, or thinking the management of a proceſs

proceſs beneath their care, reſign all that may be called the mechaniſm of the law in juridical proceedings to *attornies* and *notaries*. Theſe are a ſort of inferior advocates, who, with a ſlight tincture of the law, and a great knowledge of practice, charge themſelves with obſerving all the formalities in a proceſs that the laws and the courts require; and with giving the requiſite authenticity to all ſorts of inſtruments, and validity to evidences; with obſerving that each part of the proceſs be legal, and that each action of their client conforms to the rule of the court; in a word, that nothing be neglected that relates to formalities. There is in Germany a conſtitution of the emperor Maximilian I. for the notaries, which all the world is acquainted with; and there are many books that treat *de Notariis et de arte Notariatus*. The duties of attornies are therein compriſed, and well explained.

VII. All the functions of the notary and attorney ought, however, to be executed under the inſpection of the advocate, who for that reaſon ſhould be thoroughly acquainted with the practice of the law, and the form of proceſs uſed in the country where he exerciſes his profeſſion. On the general theory of forms and practice, there are in Germany ſeveral treatiſes, as that of Schwedendorff, intitled *Expoſitio ſummaria actionum forenſium: Samuel Stryck de actionibus forenſibus inveſtigandis: Quirinus Schacher Collegium practicum: Benedicti Carpzovii proceſſus: Martini Commentarius ad ordinationem proceſſus*, and his *Proceſſus continuatus*; with a great number of other works of the ſame nature. The advocate ſhould know, beſide theſe general maxims, the particular conſtitutions of each country, city, and court of juſtice, relative to the forms of proceſs, and the rules of pleading. In the German univerſities he will find, likewiſe, more than one opportunity of making a complete courſe according to the form and ordinance of a proceſs, whether civil, criminal, feodal, executive, poſſeſſory, provocatory, ma-

trimonial, &c. as well as of providing himſelf with the books that may ſerve as guides in theſe matters, and as general inſtructions to an advocate in all his duties, which conſiſt, according to an old ſaying of thecourts, *in reſpondendo agendo, et cavendo.*

VIII. We now come to that part of the practice of the law which belongs to the judge or *magiſtrate.* Learning, judgment, probity, and induſtry form his four cardinal virtues. It is ſuperfluous to enlarge on the two firſt; it is ſufficient to mention them, to ſhow how indiſpenſable they are. With regard to probity, we cannot ſufficiently recommend to judges to obſerve it to the utmoſt, even to ſcrupuloſity. We muſt likewiſe caution them to be conſtantly on their guard againſt themſelves; every moment to ſuſpect that injuſtice may be concealed under the maſk of juſtice; and that the Latin proverb, *ſummum jus, ſumma injuria,* is daily verified; that we frequently ſee ſentences dictated by judges of great integrity, which are ſtrictly juſt according to the rigor of the laws, and highly unjuſt according to natural equity: ſo that we may ſay with regard to the laws, *that the letter killeth, but the ſpirit quickeneth*; and that one of the greateſt of all acts of injuſtice is, when a judge, in order to prolong a proceſs, and augment the fees, makes citizens, and men uſeful to ſociety by their labours, ſubject to formalities and precautions, which they call juridical, in the common concerns of life; and which in reality are no more than ſubtilties that are uſeleſs in the adminiſtration of juſtice, and chicaneries highly detrimental to the ſtate and to individuals, by the vexation and the loſs of time they occaſion to the induſtrious part of mankind.

IX. *Delay* is the greateſt inconvenience that attends a law-ſuit: it is an evil that undermines the proſperity of individuals, and conſequently of the ſtate in general. My pen is unable to deſcribe, in colours ſufficiently ſtrong, all the evils that ariſe from this ſource. All laws ſhould be calculated to abridge the continuance of litigation; the judge by

by his own activity ſhould do the reſt. It is an atrocious crime in a magiſtrate to ſuffer, by his indolence, a cauſe to linger in the court, and thereby occaſion inexpreſſible anguiſh and diſtreſs to his fellow citizens; while he regards it as a bagatelle, and even frequently treats it with an air of pleaſant indifference. They tell, in France, of a lucky conſequence that attended an anſwer which was given to one of their magiſtrates, who was a man of great ability and great ſloth; this magiſtrate was M. de Pontac, who had retired to his eſtate of the ſame name, to divert himſelf during a part of the fine ſeaſon: a client went to him to ſollicit a final determination of his proceſs, which he had many years ſought in vain: he arrived at Pontac juſt as the preſident was going to mount for the chace; and that magiſtrate, naturally of a droll diſpoſition, bade him ſtay till he came back, and in the mean time to amuſe himſelf with finding out the meaning of the cypher that was over his gate, and which conſiſted of four *P*'s, that ſignified *Peter Pontac Premier Preſident:* when M. Pontac came back from the chace, he found his dangling client; Well, my friend, ſays the judge, have you made out the cypher? Yes, my Lord, that I have. Aye! well, what is it? It is, *Pauvre Plaideur Prenez Patience*; *i e.* poor client have patience. His affair was finiſhed the next day.

X. The judge has alſo continually to guard againſt, and to contend with, two ſorts of adverſaries, which are, unjuſt ſuitors and artful advocates. Theſe regard the law merely as a net in which they may catch men of property, who, repoſing in the ſecurity of a good conſcience, frequently neglect thoſe precautions which are neceſſary againſt chicanery: or they uſe it as a defenſive armour, ſhrowding their evil intentions under the cover of the laws, and dexterouſly parrying thoſe attacks that juſtice may make on their iniquities. The world unhappily ſwarms with books, in which juridical precautions (cautelæ)

are reduced into a ſyſtem, and which we cannot read without exclaiming, at every page, *inventa lege, inventa eſt fraus legis!*

XI. Laſtly, the practice of the law requires, that the magiſtrate have a clear diſcernment in the peruſal of thoſe caſes that are laid before him, and that he know how to give a judicious account of them. The judge, who ſhould read, from end to end, the enormous heap of writings that conſtantly attend a long and complicated proceſs, would never have done; he would frequently find two cauſes more than ſufficient employment for the whole year: there is, therefore, an art, a method in reading ſuch writings; in lightly running over the introductions and formalities, and in dwelling on thoſe points only that are eſſential to the diſpute. Much ſagacity is neceſſary to develop the truth, and clearly to diſtinguiſh the point of conteſt and its proofs. It is frequently as ſearching for a diamond in the midſt of a heap of rubbiſh. It is not, moreover, ſufficient merely to diſcover the truth, to know the juſtice of a cauſe, or of an action; he ought alſo to have the art of explaining it to his colleagues, to the other judges, to the court of which he is a member: to do this, he muſt know how to give an account of the proceedings he has examined, that he may be able to ſatisfy the parties, and the public in general, of the equity of a ſentence. It is this art that the young ſtudent in the law learns in a courſe which they call, in our univerſities, *collegium relatorium*.

CHAP.

CHAP. XXVI.

OF PHYSIC.

THE common people, whoſe unhappy lot it is conſtantly to deceive themſelves, ſeem to imagine that phyſic is the art of rendering man immortal; or, at leaſt, that a ſon of Eſculapius is ignorant of his profeſſion, who cannot cure every diſorder that is offered to him: they think, that like the king of France, who by his preſence and his touch has the gift of expelling the ſcrofula, the phyſician, by his viſits and the feel of the pulſe, ſhould conſtantly be able to drive away all infirmities, and to ſnatch the ſick from the jaws of death: ſtrange notion, to attribute to a mortal the gift of performing a miracle on another mortal; which would place phyſic not only above every other ſcience, but even render it ſuperior to the decrees of heaven, and the order of nature.

II. When we conſider phyſic only as the art of ſometimes prolonging life, and of enabling mankind to paſs the days of their exiſtence in the moſt perfect ſtate of health which their conſtitutions are capable of; it is in theſe reſpects a ſcience that merits all the attention, and the higheſt regard of mankind. It is a ſcience that cannot be ſufficiently explored: it is fit, therefore, for the happineſs of the human race, that men of the greateſt genius, of the moſt vigorous, the moſt juſt and ſagacious ſpirits, aſſiduouſly apply themſelves to the ſtudy of it. This truth becomes more manifeſt when we examine the parts, the delicate and fragile ſprings, of which this machine that we call the human body is compoſed, and the great number of theſe that are hid from our ſight, and are out of the reach of im-

mediate relief; for we muſt then agree, that it requires an uncommon ſagacity to judge, by exterior ſymptoms, of interior and hidden cauſes; and to know how to ſelect and properly apply the moſt efficacious remedies for the removal of each diſorder, and its latent cauſe.

III. From what has been ſaid it appears, that phyſic has two principal objects, which are the preſervation of health, and the cure of thoſe diſorders by which mankind are attacked. The phyſician, therefore, ſhould know, 1. The condition of the human body as it is in its natural ſtate, that is to ſay, in health: 2. Its condition in all the derangements to which it is ſo liable; that is, in all its different diſorders: 3. The ſymptoms of each diſeaſe: 4. The moſt proper methods to prevent the diſorders of the body, and the debilitation or deſtruction of its parts: and, 5. The moſt efficacious remedies for each diſorder. Theſe general heads have each their particular ſcience, of which they may be ſaid to be compoſed; and the union of theſe forms the art of phyſic. We ſhall not only treat theſe matters more fully in this chapter, but we ſhall alſo make the analyſis of each particular ſcience in the following chapters, after making ſome reflections, that are indiſpenſable, on phyſic in general.

IV. *To know the diſeaſe, to know the remedies, and to know the proper moment of applying them*, is therefore that in which the ſcience of phyſic conſiſts. Moliere ſomewhere ſays, *that a phyſician is a man that is largely paid for holding an amuſing diſcourſe by the ſide of a ſick man's bed, till nature cure him, or the medicines kill.* Others call phyſic the *art of conjectures*; and others again have made pleaſantries without number on this ſcience. But when diſorders attack this frail machine, when the body ſuffers, and death approaches, theſe ſort of *bon mots* are preſently forgot; the wind carries them away; the ſick man follows the precept of Solomon, he honours the phyſician and entreats his aid. It is certain, however,

ever, that we frequently find too much truth in the ſatirical ſtrokes we have juſt mentioned, eſpecially when we conſider the abuſe that is daily made of phyſic by quacks: theſe abuſes are moreover very eaſy, even frequently almoſt inevitable, in a ſcience, that, ſo to ſpeak, gropes its way, where the ground that it is to go upon is covered with obſcurity, and encloſed with a thick wall, ſo that it is impoſſible, from the nature of it, to enlighten all its operations by the torch of demonſtration.

V. We ſhall not here condeſcend to conſider the practice of thoſe ſhameleſs mountebanks, who run about the provinces, and knowing neither the principles of phyſic, nor the ſtructure of the human body, nor the cauſes or the ſeat of diſorders, nor the proper remedies to cure them, carry about with them, every where, their art of murdering, and ſend more of the inhabitants of a country to the grave, than a general peſtilence: nor ſhall we contend with thoſe who ſpread abroad every where their panaceas, their balm of life, their orvietan, and a thouſand ſuch drugs, as if it were poſſible in nature that there could be an univerſal remedy; as if all diſeaſes proceeded from the ſame ſource, and that the ſame remedy could penetrate to the ſeat of each particular diſorder, and there produce the ſame effects. To evince the abſurdity of ſuch extravagancies, it is ſufficient barely to mention them. But there is another ſpecies of quackery which is more plauſible, and from which phyſicians, otherwiſe able, are not exempt; and this takes its riſe from a fondneſs for ſyſtems. The phyſician, of a too ſyſtematic diſpoſition, forms, ſometimes from miſtaken ſymptoms, and frequently from ſuch as are doubtful, or not duly attended to, an *indication*, that is, a ſyſtem of the diſorder: and in conformity to this ſyſtem he regulates his cure, he gives the remedies and preſcribes the regimen. The event does not anſwer the expectation; new and contrary ſymptoms ariſe: no matter, he muſt not abandon his ſyſtem, but explains the new ſymptoms by it, and

forces nature to conform to it: the cure is continued upon this plan; the patient departs for the other world, the phyſician pockets the fees, and the earth covers his ignorance and his caprice. The experienced and rational phyſician, on the contrary, makes an indication, but he ſubjects himſelf to no ſyſtem. He follows nature through all her variations, he carefully watches every ſymptom by which he may diſcover her preſent diſpoſition; he adapts the medicines and the diet to theſe ſymptoms as they appear: he aids nature; he facilitates the means that ſhe employs to reſtore the body to its natural ſtate; he fortifies the ſprings and gives them freſh action; and if he does not conſtantly cure, it is becauſe the parts are deſtroyed, the machine worn out, the diſorder incurable.

VI. There is alſo another and very dangerous ſpecies of quackery, with which, ſometimes, whole nations are infected; and that is the method of curing by what they call the *heroiques*. There are, ſay they, but a ſmall number of remedies, the efficacy of whoſe virtues is well known, well eſtabliſhed; ſuch, for example, as rhubarb, ipecacoanha, mercury, the bark, &c. add to theſe phlebotomy, gliſtering, veſication, and ſo forth. Behold, theſe are the only remedies that are to be applied to a diſordered body. All your powders, your drops, your infuſions, your mixtures, your emulſions, your lenitives, your little defenſative remedies, are all nothing more than quackeries, than palliatives that are repugnant to true phyſic. When a man pronounces this decree, he thinks that he talks like a learned phyſician, but he reaſons like a dolt. Nature will not always brook theſe violent attacks: if you ſhake her foundations, you ſuſpend, you impede, you defeat her action: ſhe muſt be ſuffered to take her own courſe, aiding and encouraging her operations however, at the ſame time, by theſe little remedies, whoſe effects are more moderate. They would cure a quinſey, for example, by twenty repeated bleedings, by veſicatories, &c. but the patient

tient remains in a languid and exhauſted ſtate all the remainder of his life. But we frequently ſee that malady cured by one or two bleedings, and ſome of theſe little remedies that are ſo much deſpiſed; time, care, patience, and regimen do the reſt, and the patient recovers his former health and vigour.

VII. There is a third ſpecies of quackery, which conſiſts in the regimen itſelf that is preſcribed by ſome ignorant phyſicians; and which may be made even mortal when carried to exceſs: there is a moderation in all things from which we ſhould never depart. We will endeavour to explain ourſelves by one example. In the diſorders of the lungs, but eſpecially in expectorations of blood, and hemorrhages, &c. moſt phyſicians begin by frequent and violent bleedings; and preſcribe the patient, at the ſame time, not merely a regimen, but a regular faſt. They perform an admirable chef-d'œuvre. Nature requires a very different treatment. The blood alone is able to cure the expectoration, the wound in the lungs, the lacerations of the capillary veins; the blood alone is able to penetrate, to approach, and to convey relief; it is of itſelf balſamic, oily, viſcous, conſolidating. But this blood requires conſtant recruiting, a daily renewal, and this renewal cannot be made but by the aliments. Whereas, inſtead of diminiſhing the too great quantity of it, they draw it all off, or at leaſt all its beſt ſubſtance, and by their imprudent diet they take away the means of recruiting it, and of reſtoring it in good condition. It will be no other than a languid and ſlimy blood, mixed with a cauſtic water, tart and acrid, a corroſive liquor, an indigeſted matter that ſlowly circulates in the ſick man's veins. They extract from his body the only balm that could heal him, or they corrupt that balm, or they give the patient a malady ſtill worſe than the firſt, a total debility, an inanition, a deſtruction of the ſtomach, and relaxation of all the viſcera, which the aliments taken in moderation, would

would have preſerved in exerciſe, in tone, and activity.

VIII. It is doubtful whether we ſhould call by the name of quackery, or pedantry, or prejudice, or a fondneſs for old cuſtoms; thoſe different ſyſtems that phyſicians, as well ancient as modern, have eſtabliſhed, of the temperaments of the principle of life, of the primordial cauſe of diſeaſes, of the cauſes or efficacious powers in the human body, of the eſſential principle and method of cure, &c. which have given birth to divers ſects among phyſicians, as thoſe of the dogmaticians, empirics, methodiſts, epiſyntheticians, pneumaticians, eclecticians, and ſo forth; of which, ſome found their opinions, and ſupport their arguments by the authority of Hipocrates, others on that of Galen, of Paul Amman, of Sthal, Hoffman, Boerhaave, &c. They who devote themſelves to phyſic, ought naturally to acquire the knowledge of theſe ſyſtems, either with a view to profit by them, or to diſcover in what points they are erroneous. It ſhould be an object of their ſtudy. It will be ſufficient for us to give a general idea of the principal of theſe ſyſtems, and to accompany it with a few reflections.

IX. The phyſicians and philoſophers have ſuppoſed, for example, that the human race are divided into *four temperaments*, which are not only the moving principles of all their actions, but alſo the primordial cauſes of all their diſorders. Theſe temperaments are the *choleric*, the *ſanguine*, the *phlegmatic*, and the *melancholic*. Every man is ranged under one of theſe claſſes. The phyſicians, in partioular, alſo call temperament, the mixture and harmony of the four ſimple elementary qualities, heat, cold, moiſture, and dryneſs, which form, according to them, the temperament of the nature and conſtitution of bodies. From this point of view they diſtinguiſh two ſorts of temperaments, the one they call of *weight*, or *ad pondus*, and the other of *juſtice*: the temperament of weight is that which has an equal proportion and meaſure of the elementary

tary qualities; and the temperament of juſtice is that which contains unequal portions of theſe qualities, but in a proportion agreeable to the functions to which each part of the body is deſtined. It is not of theſe latter temperaments that we ſhall here ſpeak; but we cannot avoid making ſome remarks on the doctrine of the former.

X. All theſe ſorts of diſtinctions exiſt in the heads of the founders of ſyſtems, and not in nature, whoſe operations and productions are never limited to any regular order. In all that nature does, ſhe conſtantly varies her productions; and in the different temperaments or humours of the human frame there is a variety as great as that in their features and aſpects. It is evident, therefore, that the doctrine of diſtinct temperaments is a chimera, and the conſequences drawn from it, are errors. But who can ſay, what is the nature of that hidden and volatile fire which is in the human body; that kind of *phlogiſton* which ſeems to be diffuſed throughout all nature; of which electricity diſcovers to us every day more, and which is extracted by electrical experiments from all bodies? Who knows, whether the greater or leſs quantity of this fire, contained in the human body, does not contribute to give it more vivacity or more indolence? Who knows, if the various diſpoſitions of the organs permit all human bodies to receive and contain an equal quantity of this ſacred fire; which doubtleſs does not exiſt in vain in nature? It is to be wiſhed, that phyſicians would make the moſt exact and appoſite experiments, in electricity, on bodies both dead and living, and on thoſe criminals for example, who are condemned to capital puniſhments; on beings animate and inanimate; on bodies that are already in exiſtence, and on ſuch as are detached from the matrice, and are without the principle of life. Reiterated obſervations of this nature communicated to the public, might give riſe to many hypotheſes, and at laſt lead to the diſcovery of the truth. It is certain that one human body contains more

more of this fire than another: it is manifeſt alſo, that this fire put in motion in the ſpring, by the increaſe of the ſun's heat, gives freſh life to action in every part of nature; liquefies the juices that winter had congealed, and gives a new vegetation not only to torpid plants, but to every body which reſpires. This is all we yet know of this matter; but this little knowledge is ſufficient to afford room for many reflections.

XI. Among the different ſects of modern phyſicians, we ſhall conſider two only, whoſe different opinions ſeem to merit all our attention. The one, having the celebrated *Stahl*) and in ſome reſpects Hippocrates himſelf) at their head, ſuppoſes that the primary cauſe of all the diſorders in the human body proceeds from the mind; and conſequently that the mind, being differently affected, produces different diſeaſes: and this opinion they found on reaſon and experience. They believe that the mind is the principle of life, and that this principle acts on all parts of the body, as well on the more groſs, as the more minute and imperceptible; and that conſequently when this acting principle is attacked, and put into any extraordinary motion, ſome part of the body cannot fail to be ſenſible of it. Experience teaches them, that when the mind, which animates the moſt robuſt and beſt organiſed body, is violently affected, either by ſudden ſenſations, or by ſuch as are long and painful, the body thereby manifeſtly ſuffers. Thus, ſudden fright, terror, rage, corroding grief, envy, vehement deſire, and every other paſſion, occaſion diſorders, ſometimes ſudden, ſometimes ſlow; ſuch as the apoplexy, the palſy, madneſs, overflowings of the gall, fevers, languiſhments, hyſterics, and a thouſand other diſeaſes of every kind. It here evidently appears, that it is the mind which has affected the body, and occaſioned its derangement.

XII. The others who are called *Mechanicians*, and who are headed by a formidable champion, the renowned Hoffman, find the primitive cauſe of all diſorders

diſorders in the ſtructure of the body, and the mechaniſm of its organs. They believe that ideas ariſe from an infinite number of minute ſenſations, and that theſe ſenſations ariſe from the manner in which the myriads of nerves, of fibres, and other ſprings of tne body, are moved, agitated and affected. They ſeem to take the mind to be the reſult of all theſe ſenſations, and believe with M. Monteſquieu, that the imagination, the taſte, ſenſibility, vivacity, &c. (and conſequently the paſſions alſo) depend on them. Experience makes them ſee quite the contrary to what it has ſhown their adverſaries. They find, that when a noble and eſſential part of the body is deſtroyed, or greatly injured, death enſues: that the diſorder of any of the viſcera cauſes not only a diſeaſe of the body, but frequently of the mind alſo, in proportion as that part is more or leſs intimately connected with the faculty of thinking; that intenſe cold, for example, may occaſion a fever as well as a ſudden and violent fright; and that a ſtroke with a mallet, upon the head of a man, is ſufficient to diſorder the moſt rational, acute, and vigorous mind. A thouſand examples of this kind are to be found in *Man a machine*, by Dr. Mettrie, though the conſequences that he draws from them are not thoſe of a cloſe reaſoner. Here then we ſee the diſeaſes, both of the body and mind, viſibly occaſioned by the diſorders of the body: and it is in this manner that the mechanicians every where account for the mechaniſm of the organs, and explain all their phenomena by this principle.

XIII. Theſe are certainly furious contradictions!

Non noſtrum inter vos tantas componere lites.

We ſhall content ourſelves with ſhowing the ſtate of the queſtion, and ſhall only remark, that man's diſcernment is not ſufficiently keen to diſcover the principles and primordial cauſes of any one thing: that we want many ſenſes: that the moſt ſubtle anatomy, with all the aſſiſtance of the moſt improved optics, can but imperfectly diſcover thoſe nerves, fibres,

fibres, and ſprings which are animated by the principle of life: that the extremities of the nerves are entirely loſt to the view of the obſerver: that we have not abſolutely the leaſt knowledge of the nature of the mind, of the principle of life, &c. that all theſe things are myſteries to us: that we do not know, in the leaſt degree, the manner in which the body and mind reciprocally act upon each other: that therefore it is rational to operate upon that part of man which we know beſt, rather than on that of which we know nothing: that every phyſician would do well to follow the ſyſtem of the mechanicians, and not meanly to bewilder himſelf with curing the mind, but to apply himſelf to the cure of the body, to cleanſe the organs, to renew and rectify the nouriſhing juices, to improve the blood, to ſtrengthen the ſprings of the ſtomach and other viſcera, and to preſerve each part of the human body in its natural ſtate, and in that action for which it is deſtined.

XIV. Not to engage ourſelves further in ſuch kind of controverſies, which are frequently little better than frivolous, we ſhall paſs to that which is more eſſential to the diſciples of Eſculapius, and ſay a few words on thoſe ſciences which are to conduct them to the ſanctuary of phyſic. Beſides thoſe preparatory ſtudies, which every man of letters ought to purſue, the young phyſician ſhould particularly apply himſelf to the Greek and Latin languages, not only becauſe all the good treatiſes on medicine are wrote in thoſe languages, and all correſpondence among phyſicians is carried on in Latin, but alſo, becauſe the technical terms, and the denominations of all the ſubjects, that are to be met with in each of thoſe particular doctrines of which the ſcience of phyſic is compoſed, are almoſt all Greek, or of Grecian etymology. He, therefore, who already knows that language, has a very great advantage over him that knows it not: each term of anatomy, of phyſiology, of pathology, of the materia medica, and of botany, will be familiar

to

to him: he will know their derivations, the name will immediately ſhow him the part or the diſorder that it implies, the ſignification will give light to the ſubject, and he will much eaſier retain the term than if it had been utterly unknown to him: in a word, a phyſician, who knows nothing of Greek, will travel through the ſcience he profeſſes, like a man who walks in a thick fog; he never ſees his way before him; and if he attain his end, it is not till after having gone a thouſand times out of his path during the courſe of his journey.

XV. Natural philoſophy is the foundation of all the phyſician's knowledge, without which he would be no more than an empiric who undertakes the cure of all diſorders at a venture: this is a truth that probably no one will deny; but every one does not imagine that the ſtudy of the mathematics is ſo eſſential to a phyſician as in fact it is: for without the knowledge of the mathematical principles, he will but badly underſtand natural philoſophy in general, and be but a very imperfect judge of all thoſe various motions that are performed in the human body, as *de motu tonico*, *de mechaniſmo motus ſanguinis*, *de motibus humorum ſpaſmodicis*, &c.

XVI. With regard to the particular ſciences of which the medicinal art is compoſed, we ſhall remind our readers of what is ſaid in the third ſection of this chapter, and ſhall here draw the natural conſequence, which is, that it is neceſſary to underſtand, in order to know

(a) The condition of the human body in its natural ſtate,

1. *Anatomy*,
2. *Phyſiology*:

(b) The condition of the human body under its various derangements,

3. *Pathology*, or the doctrine of diſeaſes:

(c) The exterior ſymptoms of interior diſorders,

4. The *Semiotic* or *Indicative*, which treats of the ſigns and indications of diſorders:

(d) The moſt proper means to prevent the derangement of the body,

5. The

5. The *Therapeutic:*

(e) The moſt efficacious remedies for each diſorder,

6. The *Materia medica,*

7. *Botany,*

8. *Pharmacy* or *Election,* that is, the preparation and mixture of medicines,

9. *Chymiſtry.*

To which may be ſtill added

10 *Chirurgery* and *Obſtetrics,*

11. The *practice of phyſic,*

12. The *medicinal prudence, and medicina forenſis.*

XVII. We ſhall proceed to the explication of theſe different parts of phyſic in the following chapters. They who would inform themſelves more particularly of this ſcience in general, ſhould ſtudy the *medicinal inſtitutions,* that have been publiſhed by the moſt able phyſicians of all ages and all countries: they will find accounts of the beſt authors who have treated on theſe matters in the *medical bibliotheques,* of which there are many. Laſtly, they will do well to ſtudy the *hiſtory of phyſic* in the moſt celebrated authors who have wrote of it; and to furniſh themſelves with the beſt *medical dictionaries,* as thoſe of Caſtell, Brunon, Blancard, &c.

CHAP. XXVII.

Of Anatomy.

I. Although moſt authors who treat of the different parts of phyſic combine anatomy and phyſiology, we think that we ſhould here ſeparate them, that theſe two ſciences, in themſelves very different, may not be confounded in the mind of the reader. Anatomy is employed on dead bodies; phyſiology examines thoſe that are living; the firſt obſerves the viſcera and all the parts of the human body in a ſtate of reſt, the ſecond conſiders them when in action: the former finds all the parts flaccid and void of blood and juices; the latter conſiders

ſiders them as filled, and all their fluids in action, in circulation and increaſe: it alſo inveſtigates, by the principles of natural philoſophy and the aid of mathematics, the nature, the force, and effects of the motion of the ſolids and liquids in the human body; the effects of the air that man reſpires, and of that with which he is environed; the digeſtion of the aliments, and the effects which it produces; and a thouſand ſimilar matters which cannot come under the conſideration of anatomy: but as this leads to phyſiology, and as it is neceſſary to begin with the knowledge of the ſtructure of the human body, before we can underſtand the natural ſtate, the utility, the properties, and the functions of each part, and of the whole ſyſtem united; and as their ſtructure cannot be comprehended but by the diſſection of dead bodies, we ſhall treat of thoſe ſciences, the one immediately after the other, that we may combine them without confounding them.

II. Anatomy is that ſcience which inſtructs us, by diſſection, in the knowledge of the parts of the human body, as well as thoſe of other animals. The ancients underſtood right well the utility of anatomy, and applied themſelves to it with ſucceſs; as is manifeſt by the works which ſtill remain of Hippocrates, Democritus, Ariſtotle, Ereſiſtratus, Galen, Avicennus, Herophilus, and many other authors. This ſcience, however, was oppreſſed by enthuſiaſm for many centuries; the diſſection of the human body was regarded as a ſacrilege, even to the time of Charles V. and Francis I. It was not till the ſixteenth century, that men were brought to acknowledge that it was an egregious folly to debar themſelves of a knowledge that they might obtain; and anatomy was then re-eſtabliſhed. Veſalius a Flemiſh phyſician, who died in 1564, was the firſt who diſentangled this ſcience, and has been followed by an infinite number of able anatomiſts, who have made the moſt happy, the moſt accurate, and ſagacious obſervations on the different parts of the human body.

III. *Aſelius*

III. *Aſelius* diſcovered the lacteals, *Harvey* the circulation of the blood, *Pecquet* the reſervoir of the chyle, and the thoracic ducts, *Rudbeck* and *Bartholinus* the lymphatic veſſels, *Wharton* the inferior ſalivary ducts, *Stenon* the ſuperior, thoſe of the palate, the noſtrils and the eyes, and certain muſcles, *Wirſungus* the pancreatic duct, *Willis* gave the anatomy of the brain and of the nerves, *Gliſſon* wrote on the liver, *Wharton* on the glands, *Graaf* on the pancreatic juice and the parts of generation, *Lowez* on the motion of the heart, *Thruſton* on reſpiration, *Peyer* on the glands of the inteſtines, *Drelincourt* on the placenta, the membranes of the fœtus, &c. *Malpighus*, phyſician to Innocent XII. of the lungs, the brain, the liver, the ſpleen, the kidneys, the glands and the lymphatic veſſels; and we ſhould never have done, were we to attempt the enumeration of all the diſcoveries that the able modern anatomiſts, aſſiſted by the improvements in optics, and the beſt inſtruments, have enriched the world and phyſic. We here remember with admiration and gratitude, the reſpectable names of Boerhaave, Albinus, Haller, &c.

IV. The anatomiſts divide their art into ſeveral parts, and theſe diviſions are not without their utility: they prevent confuſion in a ſcience whoſe terminology alone requires a conſiderable ſtudy. Anatomy is generally divided into two principal parts, which are,

1. *Oſteology*, which treats of the *bones* and *cartilages* of the human body; of their figures, their diſpoſitions, and their ligaments:
2. *Sarcology*, which treats of the *fleſh*, and the *flexible parts*. This is ſubdivided into,

(a) *Splanchnology*, which gives the hiſtory and explication of all the internal parts, or the inteſtines, particularly the *viſcera*, which are the heart, the liver, the lungs, the ſtomach, the ſpleen, the bowels, and other interior parts of the human body:

(b) *Myology*, which relates to the *muſcles*:

(c) *An-*

(c) *Angiology*, which gives the deſcription of the *veſſels* of the human body, which are the arteries, the veins, and the lymphatic veſſels;

(d) *Neurology*, which treats of the nerves. The art of repreſenting them by graving or painting is moreover called *Neurography*. There are, beſides theſe, many particular doctrines of different parts of the human body, which have each one its name, that is to be learned in the ſtudy of anatomy itſelf. Thus, for example, they call *ophthalmography* that part of anatomy which treats of the compoſition of the eye, the uſe of its parts, and the principal effects of viſion, &c

V. There are excellent works in almoſt all languages, but principally in Latin, on each of the different parts of anatomy, which will ſerve as ſure guides to thoſe who ſhall ſtudy them. But as anatomy is founded on matters of fact, which conſtantly exiſt, and which we ſhould ſee with our own eyes, in order to form adequate ideas of them, it is indiſpenſable to frequent the anatomical theatres, to obſerve the diſſections of dead bodies, and even to diſſect them ourſelves, as well as to attend the explications of able profeſſors; and laſtly, to apply ourſelves aſſiduouſly to the operations; to endeavour to make new diſcoveries, or to verify ſuch as have been already made. All this depends on the goodneſs of the theatre, on the bodies that are brought thither, on the ability of the proſector, who is to prepare the body for the lectures, on the perfection of the anatomic and optic inſtruments, and on the profeſſor, who explains what the eye ſees.

VI. It is only in the winter months that anatomical diſſections can be made to good purpoſes, on account of the ſudden corruption, and inſupportable exhalations that ariſe during the ſummer, and becauſe this corruption, and fermentation change the figure and diſpoſition of the internal parts, eſpecially thoſe that are minute, delicate and obſcure, and conſequently are liable to give falſe ideas of the parts.

parts. For the ſame reaſon, the bodies of malefactors, whoſe bones, and the configuration of their internal parts, have been deranged by tortures, are by no means proper for diſſection. For the reſt, it is in ſome reſpects with anatomy as with geography and heraldry; it requires a keen ſight, and a ſtrong memory to retain its terms, which are moſt numerous: but it is ſtill more neceſſary to him who would excel in this ſcience, that he have a ſound judgment, an acute penetration, ingenuity, an inquiſitive diſpoſition, and an indefatigable patience, to follow nature in her moſt hidden operations, that he may make new diſcoveries in the human body, and draw ſolid inferences from ſuch diſcoveries.

VII. It is for this reaſon that they diſtinguiſh between the *common* and the *ſublime* or *refined anatomy*. The one is the ordinary buſineſs of profeſſors, phyſicians, chirurgeons and ſtudents; the other appertains to the Albini, the Boerhaave, the Hallers, the Sydenhams, the Lieberkuhns. The ſtudent in phyſic ſhould, however, begin by ſtudying the common anatomy, that he may form a juſt idea of the exact ſtructure of the human body in general, before he perplexes his mind with the refined diſcoveries.

VIII. The aids to anatomy, ſuch as works in wax, ivory, &c. drawings, and gravings, coloured, painted, or printed in natural colours, are arts that are every day improving, and cannot be ſufficiently encouraged: ſkeletons real or artificial; mummies that are entire; injections of mercury or wax into the viſcera and other internal parts of the body; microſcopes, as may be ſeen by their deſcription in the firſt volume of the *Memoirs of the Academy of Berlin*; and many other like aids, concur not only to the improvement of anatomy in general, but to enable the ſtudent in phyſic to attain, without difficulty, a ſolid knowledge of the human body, and that he may not go blindly to work when he undertakes the cure of any of its parts that are injured or impaired.

CHAP.

CHAP. XXVIII.

Of Physiology.

I. Physiology, as we have already hinted, conſiders man as living, and in his natural health and vigour. It is for this reaſon that many authors call it *Theoria hominis ſani*. Anatomy, natural philoſophy, and, in ſome reſpects, the mathematics, eſpecially mechanics, lend their aid to this ſcience.

II. Phyſiology, therefore, treats of the entire ſyſtem of the internal and external parts of the living body, according to the principles of anatomy; of the uſe, the functions and effects of its various parts, for the conſervation, the nouriſhment, growth and increaſe of man; that is, of the principles of his exiſtence, and the functions of his life, according to the laws of natural philoſophy: it is on theſe two foundations that phyſiology, and we may ſay almoſt the whole fabric of phyſic, reſt.

III. When we have learned from anatomy the ſtructure and diſpoſition of the external and internal parts of man, natural philoſophy examines, on the moſt ſolid principles, the cauſe, the ſituation, the mechaniſm, the action, and the effects of the nutritive juices; the fluids, the manner in which they are prepared, ſeparated, and diſtributed in the human body; that which puts each part in action; and that which ſupports it. It is here they endeavour to ſhow what is the *natural heat, innate or inherent*; *the radical moiſture*; *the temperaments*; *the vital ſpirit*; *the nervous juice*; *the internal and external ſenſes*; *the acting fibres*; and numberleſs other like matters, of which we have already ſpoke in the chapter on phyſic in general. We cannot refrain from remarking once more, that there is very little probability that the human mind will ever attain a perfect knowledge of the principles of things, and eſpecially of what paſſes within the human body: and even if they could

could be diſcovered, we ſhould not be, perhaps, the more advanced in the knowledge of the cure of diſeaſes, which is the object of phyſic. He therefore, who prudently proceeds in this ſtudy, will conſider the human body as a machine moſt artfully conſtructed, and compoſed of thouſands of acting powers or ſprings, of which the principal and the greateſt part are known: he will be ſenſible that theſe ſprings are delicate and fragile; that they are maintained in their natural action by the juices and liquids; that the ſolids and the fluids in the human body follow the analogy of other fluids and ſolids in the reſt of nature; that philoſophy and mechanics teach their laws; and, moreover, that it is on theſe laws, joined to anatomical diſcoveries, that the theory of phyſiology is founded.

IV. The ancient Alchymiſts and chymical phyſicians, men the moſt addicted of any in the world, firſt to deceive themſelves, and then to deceive others, bewilder themſelves inceſſantly with making of decompoſitions and mixtures, with creating ſimple eſſences and elements, and with making from thence compoſitions; and theſe viſions they carry even into philoſophy We mention their reveries here merely in order to caution the young phyſician to be on his guard againſt them.

V. The celebrated Stahl, who lived at Hall in Saxony, was ſo great a man, that his ſyſtems, even his erroneous ſyſtems, became reſpectable. We cannot here omit relating, in a few words, what was his manner of thinking with regard to phyſiology. He divides the human body into ſolid and fluid parts; and by this diviſion he explains all the eſſential parts of anatomy under the title of the *Philoſophical theory*: according to him, all the juices and fluids of the body are of ſuch a nature that they ſeparate and reſolve, or corrupt and become noxious, if a living force, an acting power, does not maintain them, by a continual motion, in their order and their perfection. This living power he ſuppoſes

poſes to be the mind. The life of the body conſiſts, therefore, in the continual mixture of the animal and corporeal parts, performed by this immaterial being, which ſupports the conſtant ſecretions and evacuations: and health is regularly maintained by all theſe active and animated motions; of which he remarks ſix: 1. The circulation of the blood: 2. The contractive power of the fibres, which is called *motus tonicus* *: 3. Voluntary motion: 4. The action of the ſenſes: 5. The interior motion, of the blood: and, 6. The motion in the evacuation of bodies that are foreign, ſuperfluous, or injurious. By theſe principles he explains the uſes and functions of all the parts of the human body, all the ſupport, nouriſhment, and the uſe of thoſe ſubjects which phyſicians call *non-naturals*, and to which M. Stahl adds *habit*. The reſt of this ſyſtem may be ſeen in his works, particularly in his Phyſiology. Might not we reduce this idea to its firſt principle, by ſaying, that the *motus tonicus* is a ſimple attribute, or natural quality, given by the Creator to the parts of the human body; as motion, gravity, and attraction, are given to other bodies?

VI. As it is not poſſible to diſſect a living body, phyſiology muſt neceſſarily be founded, in a great meaſure, on ingenious and accurate obſervations, on juſt and ſagacious reaſonings, and on a long and extenſive practice, which we have made ourſelves, or that others have made before us. It is from the reſult of ſo many obſervations, ſo much reaſoning, and on the practice of ſo many ages, that the ſyſtematic phyſiology is formed; and which the ſtudent in phyſic will hear explained in the chairs of the univerſity profeſſors, and will ſtudy in his cloſet in the works of the moſt celebrated writers on phyſiology.

* This contraction of the fibres is worthy of remark; it is, perhaps, what the ancients intended by *robur partium*.

CHAP. XXIX.

Of Pathology.

I. THERE is only one way for all animals to come into life, but there are a thouſand ways for them to go out of it. The knowledge of the ways that lead mankind to death, to diſeaſe and infirmity; in a word, the knowledge of the nature of all the diſorders to which the human body is liable, is the moſt important, and the true ſcience of a phyſician; and this ſcience is called Pathology.

II. Before we proceed to its analyſis, permit us to make one eſſential remark on a property, or rather a natural imperfection that attends all the viſcera, muſcles, veſſels, nerves, and, in a word, all the flexible parts, but eſpecially the muſcles of human bodies, and of animals in general. In proportion to the time of any animal's exiſtence, the muſcles and other ſoft parts become indurate and inflexible; from whence ariſe the alterations in the exterior appearance of a man, in his ſkin, the perceptible muſcles, the features of the face, the hands, &c. All theſe proceed from induration, which changes the figure of the muſcles, and conſequently the general appearance. If the chyle, the blood, and the juices in a man, are in a proper ſtate, this alteration will happen much more ſlowly; and they will not only remain longer in vigor, but will alſo preſerve an air of youth: if the contrary happen, he will grow old before his time. But this preſervation has its limits, and cannot be extended beyond a certain duration; when all the ſprings of the body will become inflexible, their action will ceaſe; and, the ſeveral parts being no longer able to perform their functions, the aged becomes a ſort of automaton, a burden to himſelf, and

and to thoſe who are obliged to attend him; or he ceaſes to be, and, as the ſcripture ſaith, *returns to the duſt from whence he came.* It is more important than it may ſeem, in the practice of pathology, never to loſe ſight of this obſervation on the natural property of animal bodies.

III. May we be permitted to obſerve alſo, that this ſame obſervation, by proving that immortality is abſolutely impoſſible, gives occaſion likewiſe to violent doubts relative to the aſſertion of Moſes on the ſubject of the age of the firſt race of men, and of the patriarchs. For either their muſcles, nerves, fibres, &c. were conſtructed like ours, and in that caſe it was impoſſible for them to laſt almoſt *a thouſand years*, without becoming inflexible; eſpecially as the firſt men, eat, drank, multiplied, and performed the ſame functions that we do; or elſe their viſcera, &c. were formed much ſtronger, more vigorous, more durable than ours; from whence an infallible but a very diſagreeable conſequence ariſes: for it appears to a demonſtration that a man's diſpoſition for thinking, his vivacity, his ingenuity, his ſenſibility, depend on the greater or leſs delicacy of his nerves, his fibres, and the whole of his machine. If therefore, all their parts were ſufficiently ſtrong to laſt almoſt a thouſand years, it is moſt manifeſt that the patriarchs muſt have been mere brutes, infinitely leſs ſenſible and alert than modern animals. But as the Hebrews, in the time of Moſes, knew nothing of aſtronomy, and as the year of the patriarchs, and before the flood, certainly could not conſiſt of three hundred and ſixty-five days, we are at liberty to underſtand by the word year, what revolution, what term we think proper, and no inconvenience can reſult from it, except it be to the chronologiſts, the moſt ingenious ſet of men in the world at building caſtles in the air. We are obliged to make here another obſervation, which appears to us very important. The ninetieth pſalm is intiled *The prayer of Moſes*; the ſame Moſes, who in his hiſtorical book, aſſures us, that the patriarchs and the

men before the flood, lived to near a thouſand years, but does not tell us to what age the women lived, though his account makes them loſe a neceſſary quality for generation about the ſame time that the women of theſe days loſe it; which proves that nature then acted according to its immutable laws: this ſame Moſes, I ſay, in the pſalm above-mentioned, aſſures us, that *the days of our years are threeſcore and ten, and if we attain to fourſcore years it is by reaſon of ſtrength.* The poet here does not agree with the hiſtorian; and the objection drawn from what happened before or after the deluge, falls of courſe by the phyſical obſervations we juſt now made.

IV. Let us return to our work, and to the ſubject of this chapter. We have ſtill one more reflection to make on the *blood:* that which from the moment of our exiſtence, flows in our veins is not a ſimple and homogene liquor; but it appears by all diſtillations to be a liquor compoſed of oil, water, and ſalts; which render it more or leſs ſalt, acid, bitter, acrid, ſweet, or tart. Theſe parts, of which the blood is compoſed, have alſo a natural tendency to ſeparation, if not kept by another force or power in agitation and continual mixture. Now we feel within us a principle that grows, augments, declines, and diminiſhes with age, and which augments or diminiſhes our vigour. Whether we call this principle air, ethereal ſpirit, vital ſpirit, principle of life, mind, or by whatever other name, it matters little: but it evidently appears, that this acting principle has not a diſpoſition always to maintain and purify the nutritive juices, and liquids, neceſſary to the human body, to the greateſt degree poſſible, but to corrupt and deſtroy them by exceſſes or defects: from whence we may conclude, that we are born with the principle of death, and that we every day approach it. But this natural diſpoſition is not a ſtate of conſtant infirmity; which would render man miſerable if he were ſo ſtationed; for we are not ſick, but when ſome

ſome part of our bodies meets with an extraordinary attack or injury, and the functions, which our different organs ought to perform are ſuſpended or deſtroyed.

V. When we conſider, moreover, the immenſe number of parts and ſprings of which the human body is compoſed, their tenuity, their delicacy, their fragility, and their uſe, we are naturally led to make the three following reflections; firſt, we cannot refrain from admiring the all-powerful art of the Creator, and are tempted to cry out in imitation of Virgil, *Tantum erat molis humanam condere gentem!* ſecondly, we ought to wonder, that bodies ſo compoſed, and of ſo frail a nature, are able to ſuſtain themſelves for ſo long a time; that they have not every moment ſome minute part, ſome ſpring, broken, injured or deſtroyed; and conſequently, that diſorders are not more frequent: in the third place, we ought to admire, with gratitude, the indefatigable perſeverance, the ſagacity and labour of thoſe able phyſicians of all ages, who have devoted themſelves to the inveſtigation of diſeaſes, of the marks by which they are known, of their variations, and of the ſeat of each diſorder; and to the reducing of all theſe matters into a regular ſyſtem, which is called Pathology; and by this mean giving their followers, a ſolid foundation whereon to erect all future diſcoveries.

VI. Pathology is again divided into *Noſology*, which is that part of phyſic that treats of the nature, the ſeat, the difference, and the effects of diſorders; and into Etiology (or Aitiology,) which teaches the different cauſes of diſeaſes. We ſhall not ſpeak here of the Semiotic, or doctrine of ſymptoms, becauſe that forms a ſeparate ſcience, which from its importance and extent merits to be ſeparately explained.

VII. Pathology, therefore treats of the nature of diſorders only, and Noſology inveſtigates their ſeat, &c. to which purpoſe it diſtinguiſhes, 1. The exterior maladies from the interior; the latter of

which, 2. reſide either in the ſolid and noble parts, which are all liable to be attacked in various manners, or in the fluids, as in the nervous juice, the nutritive juices, in the lymph, or in the blood.

VIII. As our life and our health depend, in great meaſure, on the regular circulation of the blood, and all the juices neceſſary to the ſupport and action of each part, it is evident that all the veſſels or ducts, by which the liquids flow and diffuſe themſelves over the whole human body, ought never to be cloſed up by any foreign body; but as they are very liable ſo to be, from their extreme minute and delicate texture, we thence ſee ſo many diſeaſes, the cauſes of which lie in the obſtructions of the veſſels and the ducts of the viſcera: for it is not neceſſary that an internal part be entirely deſtroyed, or even greatly injured, to cauſe a diſorder; it is ſufficient that it be obſtructed, or that a kind of atrophy affect its fibres, muſcles or veſſels; that their ſpring, their action be interrupted; in a word, that any one of the viſcera no longer perform its functions: and from hence may ariſe twenty infirmities, twenty different diſorders, which it is the buſineſs of noſology to explain.

IX. Theſe obſtructions are almoſt always the cauſes of diſorders whoſe effects manifeſt themſelves on the mind: as for example, melancholy, chagrin, &c. When there is no obſtruction in the ſpleen or liver, or in any of the capital parts of the human frame, theſe maladies are ſoon cured, or cannot take place.

X. When noſology has diſcovered the nature and ſeat of the diſorder, etiology inveſtigates the cauſe: and this cauſe it ſometimes finds in an unfortunate ſucceſſion, or hereditary infirmity, as in gouty, aſthmatic, and hypocondriac caſes: at others, in the bad conſtruction of the viſcera; ſometimes in the diſorder of the mind, ſometimes in the redundancy of the humours, as in the caſe of a plethora, and all that ariſes from it; ſometimes in the bad quality of the fluids, and in peccant humours; or

in

in the irregular motions, and injurious diſpoſition of the temperament; ſometimes, and very frequently, in a bad regimen; at others, in the properties peculiar to each ſex; ſometimes in love, and its effects; and at others, from an infinity of other cauſes.

XI. As the knowledge of diſeaſes is, without contradiction, the principal and moſt difficult part of phyſic, and as the patient is commonly half cured when his phyſician is not deceived in the nature and ſeat of the diſorder, it muſt be allowed, that a ſerious and repeated conſideration of this matter, an extreme application, great experience, and an aſſiduous ſtudy of the obſervations that have been made by able phyſicians, ſuch for example as are to be found in the *works of Sydenham*, in the diſſertations of *Stahl de obſervationibus medicis in hiſtoria morborum*, in the works of *Boerhaave*, in the *Pathologico-Therapeutic Tables of D. Wedel*, in the *Medical Inſtitutions of Hoffman*, in the *Pathologies of Stahl*, of *Helmont*, *Sylvius*, *Cornelius Bontekoe*, and an infinity of other learned phyſicians, with the enumeration of which we ſhall not pretend to ſwell this work; it muſt be allowed, I ſay, that this ſtudy, theſe profound reflections, muſt furniſh phyſicians with lights that are unknown to the reſt of mankind, and juſtify the precept of the ſon of Sirach * with regard to the honour that is due to the phyſician, and the utility of his art.

* Eccleſiaſticus Chap. xxxviii.

CHAP. XXX.

The Semiotic.

I. WE have already ſaid, that the ſemiotic, or indicative, is the art of knowing by exterior ſymptoms, what paſſes in the interior parts of the human body; and this important part of phyſic conſequently treats of the ſigns and indications of diſorders, as its name, which is derived from a Greek word which ſignifies *ſign*, *index*, or *indication*, ſufficiently ſhows.

II. The foundations on which this ſcience reſts, are, 1. The look or aſpect of the ſick perſon. The ſagacious phyſician acquires, by experience, an acute, and ſometimes an infallible diſcernment of the eye in this reſpect. There are, moreover, many diſorders that extend themſelves even to the epidermis, and over all the exterior parts of the body, as the jaundice and the purples: the eyes of the ſick likewiſe diſcover what paſſes within him; the lips, the tongue, the features of the face, all concur to inform the phyſician; who ought of all men, beſt to underſtand phyſiognomy.

III. Secondly, The hiſtory of the diſeaſe, which the phyſician ſhould learn from the mouth of the ſick himſelf, or at leaſt from ſome attendant who is well informed in it. The leaſt circumſtance forgot, or wrong repreſented here, occaſions conſiderable alterations, ſeeing that it is only by the ſymptoms that a juſt indication can be made——abſolution is the conſequence of confeſſion.

IV. Thirdly, The pulſe is the barometer of health: its beatings more or leſs quick, more or leſs ſlow, reiterated, ſtrong or weak, ſhow the degrees of activity, of quickneſs or ſlowneſs of the blood's circulation. The equality or inequality of its motion indicates a fever. Violent, confirmed, quotidian, periodic, or continued fevers, are manifeſt by the ſimple touch of it to thoſe who have the leaſt

leaſt experience: but there are ſlow, hectic fevers, that proceed from ſome ſmall ulcer, or ſlight diſorder in the lungs, which are ſometimes imperceptible to an able phyſician, and require a very ſenſible touch to diſcern them.

V. Fourthly, The urine alſo furniſhes many ſigns of the ſtate of the diſeaſe, of its progreſs, its criſis, and decline. But away with thoſe empirics who pretend to ſee in this evacuated fluid, clear, as through a cryſtal, the nature and ſeat of each indiſpoſition, impoſing on the vulgar by that grave, important, and myſterious air with which they make their inſpection. The ſeparations from the blood, and other juices and fluids, being, however, clearly manifeſt in the urine, it is certain that an able phyſician may frequently draw from thence very ſtrong indications.

VI. Fifthly, The congealed blood, after phlebotomy, alſo affords very uſeful obſervations. Its ſubſtance, and very frequently all its peccant qualities, are very viſible. All its inflammations are there manifeſt. It is frequently viſcous, ſlimy, covered with an inflammatory greeniſh pellicle; as in quinſies, pleuriſies, peripneumonies, and numberleſs other like maladies; from whence the phyſician receives great information.

VII. Sixthly, The excrements, the ſweat, the ſpittle, and, in a word, all the evacuations, ſerve alſo to indicate diſeaſes, their progreſs, and their decline. Seventhly, The reſpiration, the ſleep tranquil or diſturbed, the tone of voice, the preſence of mind of the ſick, and an infinity of like ſymptoms, ſhould all guide the phyſician in his indications: he ought not to neglect any one of them, but to unite the whole in one ſyſtem; and at all times not only to conſult nature, but follow her in all her various operations, and all her changes.

VIII. Eighthly, It is evident, that diſcernment, reaſon, but above all great experience, are the principal requiſites in the ſemiotic. There are,

however, guides that will conduct the young phyſician in this courſe: his able predeceſſors of all ages have left the valuable monuments of their obſervations; for we find in the ancients, as well as in ſome celebrated moderns, ſuch exact and minute deſcriptions of moſt diſeaſes, as well as their ſymptoms, that we cannot ſufficiently admire their labours, nor acknowledge their ſagacity and experience. The greateſt part of the indications of known diſeaſes are to be found in the treatiſe of *Doctor Bohn, de officio medici clinici*, in different chapters, and theſe are founded on a long practice.

IX. The title of this book reminds us here of an admirable inſtitution at the univerſity of Hall, to which the orphan-houſe of that city, founded by the celebrated Doctor Franck, has given riſe, and by which alone it can be ſuſtained. The diſpenſary of that houſe, the moſt complete and beſt furniſhed of any in Europe, gives to the ſick poor of the town and its environs, all the moſt excellent medicines gratis; but theſe ſick are obliged either to appear in perſon, or to ſend ſome one thoroughly inſtructed in the hiſtory and preſent ſtate of their diſorder; and alſo to make their report in the auditory of a very able profeſſor in phyſic, at a ſtated hour. It is there that a crowd of the diſciples of Hippocrates aſſemble, and fill the benches of the amphitheatre, while the profeſſor ſits below and examines the ſick, or they who appear on their account. After hearing from them the hiſtory, the actual ſtate and ſymptoms of the diſorder, the profeſſor demands of the aſſembly, *Gentlemen, what is the name and nature of this diſorder?* If one of the ſtudents diſcovers the truth, and makes a proper reply, he receives commendations; if he miſtake, his opinion is rectified; if nobody anſwers, the profeſſor explains the diſeaſe, and deſcribes its nature. He then aſks what are the proper remedies. The ſtudents write preſcriptions, which he examines, and analyſes, rejects or approves, conſtantly pointing out the reaſons that induce him to think

think and act as he does. The prescription is then given to the sick or his representative, who receives from the dispensary the medicines prescribed without paying the least matter in consideration. If the patient be confined to his bed, and his disorder appear dangerous, the professor dispatches two students to visit him, and to report the state of the disease. It is thus that the young physician carries with him, from this university, after one year's residence, the practice on at least two thousand patients; and this first experience is acquired under the sight and by the direction of a guide consummate in his profession.

X. The infinite utility of such an institution is easy to be conceived. This course is called in the language of the art a *clinical course*, *collegium clinicum*, from the ancient Latin word *clinare*, which is to be found in Lucretius; and the term *clinic* now signifies *one kept in bed by indisposition* In fact, it is by the side of a sick bed that the physician acquires the art of distinguishing symptoms, and of forming a sound judgment by exterior indications of the interior state of each disease; for nature affords no other mean of knowing what passes within the human body.

XI. It must not be imagined, moreover, that all signs, all symptoms are infallible. There are disorders so ambiguous, that the greatest physicians have named them *morbi compositi*, *mixti*, *corrupti*; and in which the most experienced are liable to be deceived. The symptoms themselves are frequently so equivocal, so complicate, so various and contradictory, that it requires a sagacity more than human, never to be mistaken. They pretend, however, that the celebrated Boerhaave, that truly great man, was never totally deceived in this respect but three times in a practice of forty years. The fact is scarce credible.

CHAP.

CHAP. XXXI.

The Therapeutic.

I. IT is to little purpoſe that the phyſician underſtands the ſtate of the human body in health and in ſickneſs, if he do not apply himſelf to acquire the knowledge of the art of healing. This undoubtedly is the moſt important part of his ſcience, and even that in which all the reſt center. *Hic Rhodus, hic ſalta.* The doctrine that teaches this art, is called *Therapeutic*; and its buſineſs is to give rules *for preventing diſorders, and for curing them:* it inveſtigates remedies, and teaches to apply them conveniently, opportunely, and with efficacy.

II. The therapeutic, or therapy, is therefore the practical art that is exerciſed on the diſeaſed themſelves: for which reaſon ſome authors call it by the name of *Praxis medica*, and divide it into *therapy* and *chirurgery*; compriſing under the former, the method of treating internal diſorders; and under the latter, that of curing external parts when injured. But we ſhall have occaſion to treat of chirurgery and obſtetrics, after we have finiſhed the analyſis of the particular parts of phyſic.

III. Who is there that does not know, that the therapeutic is the common rock againſt which the greateſt part of young phyſicians ruſh? An opinion of his own ability, a deceitful confidence in that learning which he has acquired by ſo much ſtudy; the theſes that he has ſo victoriouſly ſuſtained *pro gradu doctorali*; the applauſe he has received from his profeſſors and his fellow ſtudents; the doctoral habit with which he is decorated; all inſpire the young doctor with a confidence frequently raſh and fatal to ſociety. The pilot who has learned only the theory of navigation in the ſchools, hazards himſelf on a tempeſtuous ſea; he conducts the ſhip by the principles of his ſcience, he conſults the ſtars, he follows the winds, he conſiders all that is above and round about him; but he does not perceive

ceive the ſhoals and the rocks that the waves cover; and at every inſtant his veſſel is in danger of becoming a wreck. It is not but by a number of errors, by virtue of his having depopulated the earth, and repleniſhed Heaven and Hell, that the young phyſician acquires the knowledge of the therapeutic. What is to be done however? After having finiſhed his ſtudies, his practice muſt have a beginning. It muſt ſo; but woe be to them that are his firſt patients! The wiſe phyſician, however, will interrogate himſelf; he will become his own Ariſtarchus; he will examine if the ſcience he has acquired be juſtly founded; he will exert every faculty of the mind; redouble his attention; and when he launches on the ſea of practice, he will keep the ſounding lead conſtantly in hand. He will be directed by conſcience, by honour, by ambition.

IV. After the phyſician has put in practice all the precepts of pathology and the ſemiotic, he begins by making a juſt indication, and forms a rational ſyſtem of the cauſe, the ſeat and nature of the diſeaſe. He preſcribes to his patient a regimen agreeable to his ſtate; he examines the aliments he is to take, the place he inhabits, the bed on which he lies, the cloathing with which he is covered, and the air that he reſpires: all theſe matters taken together concur, more than is imagined, to the efficacy of the remedies and the recovery of the ſick. In the diſorders, for example, that attack the ſkin, as the ſmall pox, the meaſles, purples, &c. they formerly heated the apartments to exceſs, and ſtifled the ſick. The moſt fatal experience has convinced mankind of this error.

V. Tranquillity of mind in the ſick contributes alſo, in a very great degree, to his cure. The phyſician ſhould employ all the art of perſuaſion to calm his temper, and to exhort him to patience: and ſhould never let him know all his danger, but ſtill leave him hope, and endeavour to procure him ſound ſleep; which are the two greateſt conſolations in all evils.

VI. The

VI. The examen of the temperament, or natural conſtitution of the patient, is one of the moſt eſſential points in the cure. A body robuſt and vigorous requires to be treated totally different from one that is delicate and feeble. A lady of the court, or a man of ſtudy, cannot ſuſtain the ſame method of cure with a ploughman or collier, a ſoldier or ſutler. A ſound judgment muſt here direct the phyſician.

VII. When, by the aid of the ſemiotic and pathology, the phyſician has learned the nature of the diſeaſe he is called to cure, he ſhould endeavour to diſcover if the malady be not incurable or mortal; if the parts of the body be not ſo attacked, or even impaired, that all the efforts of nature and art will be vain and uſeleſs; in which caſe the patient is not, however, to be refuſed all conſolation, and every lenient and palliative remedy poſſible, leaving the event to Providence, and ſometimes to an uncommon accident, or kind of miracle.

VIII. But when there is room to conceive any hopes of a cure, it is then the phyſician ſhould employ the moſt efficacious remedies, and form a good plan of *the method of cure:* but, alas! it is this method that makes ſo many poor mortals take the road to diſſolution, ſo much ſooner than the decay of nature would have led them to it. His heirs and his phyſician comfort themſelves, provided that the ſick man has died according to the rules, that is to ſay, *methodically*. There are a thouſand caſes however, where it is by no means eligible to perſiſt in following a fixed method, but to conſult nature, as we have already hinted on the chapter on phyſic in general, and cannot too often repeat. There are a thouſand caſes where the phyſician is greatly embarraſſed in the part he is to take in the method of cure, and where it may be ſaid, with Moliere, *Hippocrates ſays* YES, *but Galen ſays* NO. The moſt ſagacious and moſt experienced phyſicians have tranſmitted, however, to their ſucceſſors, rules to direct them in their choice; ſome of which, as they appear

appear to us the moſt univerſal and beſt ſupported by ſound reaſon, we ſhall here mention.

IX. The firſt of theſe rules is, that the phyſician ought never to loſe ſight of the path that nature points out to him; ſtill varying the remedies as the revolutions and ſymptoms may daily ariſe; and ſometimes even give no medicine at all, but let nature alone work, according to her ordinary courſe; ſometimes, on the contrary, though the effects may not anſwer the expectations, ſtill to continue in the method firſt adopted, at leaſt to repeat the ſame medicines after ſome time, and wait the ſucceſs with patience and perſeverance.

X. Secondly, The method of cure ſhould not be too long continued: the patient ſhould neither be put to the torture, nor his conſtitution totally enervated, in order to cure him of an indiſpoſition, or accidental diſorder. 3. The phyſician, in making choice of what he thinks the moſt proper medicines, ſhould conſtantly remember, that in entering the ſtomach they paſs into another world; that they do not produce the ſame effects in the human body that they do out of it: a drug that is diſſolvent, corroſive, &c. is not always diſſolvent, or corroſive, &c. in the inteſtines, where its nature is changed, its action is weakened, or its points blunted, by the heat, by the action of the viſcera, by the viſcous and fluid matters that preſently ſurround it, &c. 4. That the part, where the malady reſides, is often diſtant from the ſtomach and the primæ viæ, and the canals that lead to it are ſo minute, ſo ſubtle and delicate, that the medicines cannot reach it, or if they do, their nature is changed, and conſequently they do not produce the effect expected: 5. That the ſtomach ſhould be always conſidered as the primary organ in the human frame, where the juices and fluids are prepared, and from whence they are diſtributed to each part of the body, according to its wants: 6. That conſequently in all diſorders whatever, it is, at all times, advantageous to evacuate and lightly cleanſe the ſtomach

and

and primæ viæ, that they may regularly perform their functions, their diſtillations, and digeſtion : 7. That the cauſe of the diſorder ſeldom lies in the ſame part where its effects appear ; that it frequently happens, for example, that an apoplexy is occaſioned by an obſtruction in the inteſtines, &c. 8. That the temperament ſhould be ſometimes ſtrengthened and ſometimes weakened, and the activity of nature ſometimes diminiſhed and ſometimes augmented : 9. That it is not prudent to give too many remedies nor medicines of too compoſite a nature, for the proverb, *quo majores receptæ, eo minores virtutes*, is very frequently verified.

XI. For the reſt, all the hiſtories of diſeaſes, of the good or bad ſucceſs of medicaments that phyſicians have employed to cure them ; of the ſalutary or injurious effects that the different methods of cure have produced, are ſo many therapeutical leſſons for a phyſician. There are moreover, numberleſs works wherein this matter is thoroughly inveſtigated, and in its fulleſt extent, as in the *Therapeutica univerſalis, Fernelli* ; *Medicina practica, Sennerti* ; &c &c. or where ſome parts of it only are conſidered, as in the *aphoriſms* of the illuſtrious *Boerhaave*, &c.

XII. We have already ſaid, that notwithſtanding the moſt ſolid theoretic knowledge, the moſt extenſive, the moſt aſſiduous, and the moſt conſummate practice, the art of phyſic ſtill frequently militates againſt nature and her laws. It is impoſſible to render man immortal, or always healthful : *Non eſt in medico ſemper relevetur ut æger.*

CHAP.

CHAP. XXXII.

Of the Materia Medica.

I. IF the Creator in his wiſdom has thought proper to afflict the human race with an innumerable tribe of diſeaſes, his goodneſs in return has furniſhed them, from the three kingdoms of nature, with an infinite quantity of remedies againſt theſe maladies. Animals, plants, minerals, ſtones, foſſils, in a word, every object concurs to produce ſome medicament ſalutary to man in the infirmity, and the languiſhments of his conſtitution. The number of theſe remedies is ſo immenſe, that the moſt comprehenſive memory is not able to contain their names alone: and not only centuries, but thouſands of years of ſtudy and obſervation would be requiſite to diſcover the virtues and uſes of each plant and mineral. It requires, moreover, the concurrence of many ſciences, and many arts, thoroughly to inveſtigate the nature and properties of all the bodies that compoſe the univerſe; to reſolve them, to obſerve the effects that reſult from their mixture, and thoſe which they produce upon the human body. It requires, likewiſe much knowledge and reflection to determine what are the particles that enter into the compoſition of each body, whether they conſiſt, for example, of parts of ſulphur, nitre, ſalt, iron, oil, acid, alkali, &c. and to know what remedy is applicable to, and can produce the moſt ſalutary effects in each kind of diſeaſe. The knowledge of all theſe matters, the general ſyſtem of all remedies that it is poſſible to draw from the three kingdoms of nature, is compriſed in phyſic, under the Latin determination of *materia medica*, or the medicinal matter.

II. The *obſervations* of the greateſt phyſicians and naturaliſts of all ages; *botany*, or the knowledge of plants; *chymiſtry*, or the art of reſolving bodies; and *pharmacy*, or the art of preparing remedies,

medies, are the foundations, the guides, and ſupport of the materia medica. The three following chapters ſerve, therefore, to elucidate this ſubject; and we think that we ſhould not anticipate any reflections that may there ariſe, in order to avoid repetitions as much as poſſible, and that we may not confound theſe ſubjects.

III. But with regard to the medicinal matter in general, which is the doctrine that reſults from botanic, chymic, pharmaceutic, and practical obſervations, we ſhall only remark, that from the time of Hippocrates, Theophraſtus, Paracelſus, Galen, and other celebrated phyſicians of antiquity, down to our days, the greateſt of men in this art have left us the invaluable monuments of their obſervations on the properties, the natural virtues and effects of medicines or remedies; and that the more we ſtudy their works, the more we enrich ourſelves from their diſcoveries; the more we appropriate their ſagacious labours, the more knowledge we ſhall attain in the method of applying the moſt efficacious remedies to the cure of each diſeaſe.

IV. Secondly, all remedies ſhould be divided into *ſimple* and *compound*. We ſhould begin with the knowledge of ſuch as are ſimple, and their virtues; and then proceed to the ſtudy of thoſe that are compound, and their virtues. And here are two rocks to be avoided, which are incredulity, and too great credulity. It is ſtill far from being the caſe, that philoſophy, aided by optics, by chymiſtry, and all the arts that contribute to its improvement, has diſcovered all the properties and virtues of every ſubſtance: therefore, although we do not know the virtues of a medicine, and are not able to demonſtrate its efficacy *a priori*, we are not authoriſed abſolutely to reject it; the opinion and teſtimony of the moſt able ancient and modern phyſicians, confirmed by daily experience, are ſufficient to juſtify the uſe of it ſometimes in caſes of neceſſity. On the other hand, it is an extreme weakneſs to confide in the fallacious accounts that empirics

empirics give of their drugs; and of the numberleſs chimerical virtues which they attribute to ſome favourite remedies. Reaſon muſt direct the phyſician in the courſe he is to ſteer between theſe rocks, as well as in every other part of his practice, which it muſt be confeſſed, is oftentimes wrapt in a darkneſs, that it is not poſſible to elucidate by the torch of demonſtration; ſeeing that he is obliged to make uſe of remedies, of which it is impoſſible for any man to know all the properties, againſt diſorders that are hid from his ſight, and of whoſe nature he can only conjecture by external ſymptoms.

V. Perhaps we ſhall find no place more proper than this, to ſpeak of *ſympathetic cures*. Thoſe of which we every day hear, are unworthy the attention of any one who pretends to the leaſt ſhare of reaſon: ſympathy in general, taken in its uſual ſenſe, is the greateſt chimera that fanaticiſm ever conceived: to think that an effect may be produced without a cauſe, or that one body can act upon another at an extreme diſtance, when there can be no reciprocal attraction, or where the particles, which are emitted from them, cannot rencounter by reaſon of the immenſe diſtance; when, in a word, all direct communication between them is impeded; in ſhort, to imagine that the Almighty performs a miracle in each ſympathetic cure, at the intreaty of a mountebank, as muſt be ſuppoſed, is to entertain a moſt ſhameful extravagancy.

VI. But ſince it is certain, as we juſt now obſerved, that the moſt improved philoſophy cannot diſcover all the qualities, the virtues and effects of divers bodies, nor their reciprocal action and reaction, chance may ſometimes diſcover effects of which the cauſe is totally concealed from us; and conſequently when the communication between a body that acts, and another on which it acts, is not entirely interrupted, we may find phenomena and effects in nature highly wonderful, without being able to comprehend their principle. This kind

of

of ſympathy is very poſſible; this is no more than a natural operation, whoſe cauſe is unknown to us, from our want of ſenſations ſufficiently refined to diſcern them. But it is apparent alſo, how uncertain theſe ſorts of cures are, in conſequence of our ignorance of their principle: the moſt minute, imperceptible alteration in the nature or poſition of the two bodies, may naturally alter their effects; and from this incertitude, ſympathetic cures become almoſt equal to a chimera.

VII. Let us return to ſomething more ſubſtantial. As we know not in theory the compoſition of all the parts of each body, nor the effect that each body produces upon every other body, nor the manner in which theſe effects are produced, it is almoſt morally impoſſible that we ſhould know, and be able to demonſtrate *a priori*, the virtues and effects of each remedy, and conſequently we ought to adhere, as we have ſaid, in the doctrine of the materia medica, to the obſervations of our predeceſſors, and judge of remedies *a poſteriori*. Not, however, that in this matter all is founded on experience alone; for there are numberleſs medicines whoſe virtues may be demonſtrated by philoſophical principles; as mercury, for example, is known to operate by its ſpecific gravity; antimony, or the emetic tartar, by the configuration of their pointed particles; other remedies by their cauſticity; others by their oily and balſamic parts, and ſo of the reſt: but this is not the caſe with regard to all medicaments, and more eſpecially ſuch as are of a very compound nature.

CHAP.

CHAP. XXXIII.

BOTANY.

I. *BOTANY is that ſcience which teaches the knowledge and denomination of every kind of plant whatever.* The word *plant* is here taken in its moſt extenſive ſenſe, and ſignifies all vegetables without exception; trees, ſhrubs, flowers, culinary and officinal herbs, &c. &c. The eſſential reſolution of plants appertains to chymiſtry; the knowledge of their medicinal virtues to the materia medica; and their preparations to pharmacy: botany is only concerned in diſtinguiſhing them, in naming them, and underſtanding their cultivation.

II. The number of known trees, plants and vegetables, is ſo numerous, that the moſt happy memory cannot retain all their names; eſpecially if we add to thoſe that are natives, ſuch as are produced in other parts of the world. We are aſſured that botany already deſcribes more than twenty four thouſand plants, of which the botaniſt ſhould know the names and etymologies. This number is prodigious, and ſufficiently ſhows the neceſſity of inventing ſyſtems in order to range them in their different claſſes, to determine the diſtinguiſhing marks of each claſs, and by that mean to aid the botaniſt, not only in acquiring the knowledge of plants themſelves, but to enable his memory to retain, if poſſible, all their names and qualities; which is the intention of all ſyſtems whatever.

III. Phyſicians and botaniſts, as well ancient as modern, have tortured their imaginations to find out the characteriſtics of plants, that they might diſtinguiſh the one from the other, and conſequently range them in their reſpective claſſes. *Paracelſus*, *Porta*, *Carrichter*, *Crollius*, and numberleſs others, have imagined that they diſcovered a kind of relation and harmony between the make, the configurations of plants and thoſe of the parts of the human

human body: but theſe relations or reſemblances are too vague and uncertain; they lie frequently leſs in nature than in the head of the obſerver; who reſembles thoſe viſionaries that ſee, in the duſk of the evening, battles in the air, armies of Moors and Turks among the clouds, and a thouſand ſuch chimeras. To this former fantaſy they have added a ſecond, and they imagine, that as we can diſcover the mind, the interior part of man, by his ſpeech, his aſpect, his features, his proportions and phyſiognomy, they can, in like manner, diſcover the occult virtues of plants, and their effects on the human body, by the harmony of their exterior forms and configurations; and this is what they call the *ſignature of plants*. In conſequence of this ſyſtem they pretend to know, therefore, thoſe plants which have the ſignature or mark of the members of the human body; others that have the marks of certain human infirmities; others again that have a perfect reſemblance to the ſeveral diſeaſes, &c.

IV. The world is not, at this day, without adherents to this ridiculous ſyſtem. Thoſe men of real ability, who invent or follow a more rational method, they call mere nomenclators, *i. e.* ſuch as know nothing of plants but their names. To which theſe reply, 1. That we ought not to confound the ſciences; and that the virtues of plants, like every other remedy, belongs to the materia medica: and 2. That the whole ſyſtem of the *ſignature* is built upon the ſand; that the ſigns, which they ſuppoſe to be indicated by the plants never correſpond with the virtues they promiſe; and that the ancient diſtinctions, about purgatives, attractives, corroboratives, &c. are the moſt frivolous chimeras in the world.

V. *Cæſalpin, Morriſon, Herman, Boerhaave, Ray, Sloane, Amman, Rivinus, Knaut, Ruppius, Plumier, Feville, Buxbaum, Dillen, Michel, Magnole, Vaillant, Scheuchzer* *, and above all, the illuſtrious *Tourne-*

* To theſe may be added many ingenious authors on this ſubject, ſuch as, Blair, Miller, Gerard, Hill, Evelyn, Hudſon, Parkinſon, &c.

fort,

fort, *Haller*, and *Linnæus*, have invented, followed, extended, and perfected a ſyſtem, which is the moſt natural and moſt rational, and which they derive from the generation or propagation of plants, and which they name, in the term of their art the *fructification:* and this ſyſtem it is, that we think we ſhould here explain in the moſt conciſe manner poſſible.

VI. According to them, the object and the foundation of botany conſiſt in *a regular and ſyſtematic diviſion, and in a juſt denomination of plants, according to their genera and ſpecies.* This diviſion is derived from fructification; and nature proves that this propagation is the baſis of botany. There are two principal parts which eſſentially belong to fructification, *the flower and the fruit*; and theſe two principal parts are ſubdivided into ſeven particular parts, in the following manner:

I. The flower is formed by,

1. The calix or cup, which is compoſed of the receptacle, the rind or huſk, the ligament, the ſheath, the capſula or caſe, and the cap or cover:
2. The crown, which is compoſed of the leaf, the flower, and the nectarium or reſervoir of juice:
3. The ſtamina, which are compoſed of the filament and the apices that contain the ſeed:
4. The piſtils, which are compoſed of the ſtyle or needle, and the ſtigmata or tokens.

II. The fruit, which is formed by,

5. The pericarp or reſervoir of the ſeed; which is compoſed of the capſula, the reſervoir or the ſhell, the pea, the nut, the olive, the apple, the berry, and the pine:
6. The apices, which are compoſed of the ſeminal grain, the crown, and the tuft:
7. The receptacle or border, which is of three kinds, for the flower, the fruit, and the parts neceſſary to fructification.

VII. The

VII. The principal object then in plant is fructification; in fructification, the flower and the fruit: in the fruit, the grain or ſeed; in the flower, the ſtamina and the piſtil; in the ſtamina, the apices; and in the piſtil, the ſtigmata. Each fruit is preceded by a flower; and the eſſence of the flower conſiſts in the apices and the ſtigma. All modern botaniſts of any eminence agree, that the apices and the ſtigmata conſtitute the two ſexes of plants. The apices form the parts of generation in the males, and fructification takes place when theſe ſhed their fruitful duſt in the ſtigmata, which are the female parts of generation. It follows, therefore, that the flowers which have only the apices are the *males*; thoſe that have only the ſtigmata are the *females*; and ſuch as are provided with both are *hermaphrodites*. The plant, therefore, which only bears male flowers is called *maſculine*; and that, which only bears female flowers, *feminine*; that, which bears thoſe of both ſexes, is called *androgyne*; that which bears hermaphrodite flowers, is called alſo *hermaphrodite*; and laſtly, ſuch as bear regular flowers of both ſexes, and at the ſame time hermaphrodite flowers, are called *mixt*.

VIII. It is according to theſe principles, that modern botaniſts divide all plants into different genders, and place each in that claſs to which it belongs, according as they diſcern their ſeveral qualities, whether it be by the inſpection of the naked eye, or by the aſſiſtance of a common magnifier, or by the microſcope. Theſe claſſes are founded on the ſeveral manners in which different plants conjugate or marry with each other; from whence ariſe the ſeveral claſſes of triandres, tetrandres, pentandres, &c.

IX. The particular denomination of each flower, herb, ſhrub, plant, &c. occaſions likewiſe great difficulties in botany; for in the firſt place, the ſame plant does not always bear the ſame name in every country; and, ſecondly, modern botaniſts have changed many names that the ancients gave

to

to plants, which is a very conſiderable inconvenience to this ſcience, from the great confuſion it occaſions. The knowledge of the Greek and Latin languages is almoſt indiſpenſably neceſſary to the ſtudent in botany.

X. What remains is to be learned by the ſtudy of the ſcience itſelf. We ſhall only add one word on the properties and general virtues of plants. Botaniſts pretend to diſcover by the exterior ſenſes, and 1. *By the taſte*, that the ſweet plants are nouriſhing; the unctuous, mollifying; the ſalt, irritating; the acid, refreſhing; the rough, aſtringent; the bitter, alkaline; the biting, corroſive; the nauſeous, venemous: 2. *By the ſmell*, that the agreeable are ſalutary; the ſweet, cordial; the aromatic, reſolvent; ſuch as have the ſmell of the goat, provocative; the diſagreeable, ſuſpicious; and the diſguſtful, venemous: 3. *By the colour*, that the red colour every where denotes a ſharpneſs and acidity; and when a plant inclines to a bright yellow, and is diſagreeable to the ſight, it conſtantly becomes ſuſpicious.

XI. They, who would extend their knowledge in this ſcience, may ſtudy to advantage the botanic works of the celebrated *Boerhaave*; the *Inſtitutiones Herbarias* of *Tournefort*; the botanic principles of *Linnæus*; the treatiſe of *Amman*, intitled *Character plantarum naturalis a fine ultimo, videlicet fructificatione deſumptum*; and many other excellent works of this kind. The prints, and coloured plates which are every day publiſhing, the collections of dryed and preſerved plants, the *herbaria viva*, and eſpecially the botanic gardens that are to be met with in well regulated countries, and the daily reſearches and obſervations that he will himſelf make, will perfect the botaniſt in this ſcience, as far as it is capable of perfection.

CHAP. XXXIV.

Of Chymistry.

I. THIS may not be thought, perhaps, the proper place to treat of Chymiſtry, as this art, taken in its full extent, ſeems to belong more properly to natural philoſophy, ſeeing that it requires much ſagacity and accuracy in its obſervations, many philoſophical principles in its operations, and ſtrict arguments in its inferences; and, moreover, far from being confined to medicaments, it embraces, ſo to ſpeak, the whole frame of nature. But as the general ſyſtem of ſciences, of which phyſic is compoſed, would be incomplete, if we did not mention the aſſiſtance it receives from chymiſtry; and, to ſay the truth, the greateſt utility, which mankind receives from this art, conſiſts in the ſalutary remedies which its operations produce: as it appears to us, moreover, equally eligible to aſſign it a place here as elſewhere; and as we think that we ſhould make the analyſis of each ſcience together, in its complete univerſality, according to the diverſity of its operations and effects, the reader will not wonder that we here offer him a general ſketch of chymiſtry, in all its various diviſions.

II. *Chymiſtry in general is the art of reſolving and uniting bodies, principally by the aid of fire.* We have already ſaid, that all bodies are of a compound nature; and without embarraſſing ourſelves here with enquiring what may be the eſſence, the qualities, the figures of the particles, the original elements, the monades (or however elſe they may be called) by whoſe union bodies are formed, it is clear, 1. That by changing that firſt eſſential compoſition of bodies, their nature, in a certain degree, muſt be alſo changed: 2. That by ſo reſolving bodies, we ought likewiſe to diſcover and extract thoſe particles of which they are compounded:

pounded: 3. That it is the only method of making a true and ſuccinct analyſis, and of throwing uſeful lights on the ſubſtance, and on the virtues of each body: 4. That the reſult of this decompoſition may be uſefully employed in favour of mankind, as well with regard to medicines, as to other purpoſes: and, 5. That by re-uniting divers bodies, and reducing them to one and the ſame maſs of matter, this new compoſition may produce the ſame advantageous effects as the decompoſition of which we juſt now ſpoke

III. All this is performed by chymiſtry; and conſidered from this point of view, it is not ſurpriſing that ſo many ſenſible men apply themſelves to the ſtudy of it: but when carried beyond theſe bounds, chymiſtry becomes a rock to the dupe and the covetous, the ruin of families, the paſſion of viſionaries, and the reſource of adepts and knaves, terms that are ſynonimous. To juſtify this aſſertion, which to many readers may appear too raſh, we ſhall reſolve chymiſtry itſelf, as that reſolves bodies; and by this analyſis we ſhall ſee what it contains, what it promiſes, and what it performs; how far its ſolid limits extend, and where its chimeras begin.

IV. The judicious and rational chymiſt will confine himſelf to the conſideration of chymiſtry, as an art that teaches to ſeparate different ſubſtances that are found mixed in nature, as vegetables, minerals and animals; to analyze natural bodies, and to reſtore them to their firſt principles; to diſcover their hidden virtues; to demonſtrate their interior harmony, and the center in which all corporeal ſubſtances concur; to make the anatomy of bodies, ſo to ſpeak, by the mean of fire; to ſeparate the uſeful matter in each mixture from the uſeleſs; to extract the juices of plants and animals; to liquify the moſt ſolid ſubſtances, and to put them in fuſion; to make accurate obſervations on all the effects that theſe different metamorphoſes produce, and to employ them to the improvement of arts, and the

welfare of mankind; as by enriching the materia medica with new diſcoveries; by the invention of new colours; by new compoſitions of argil, glaſs, porcelain, &c &c. By theſe means, I ſay, the chymiſt will purſue a uſeful art, and will merit the encomiums, and the acknowledgments of his fellow citizens.

V. But when this chymiſt erects himſelf into an empiric, and becomes either an enthuſiaſt or impoſtor; when he imagines that there is a ſublime, or rather a miraculous chymiſtry; and adds the Arabic particle *al* to it, becauſe, in ſhort, the genius of an Arabian is here neceſſary, and calls it Alchymy; when he amuſes himſelf with the chimerical notion that the firſt elements of which bodies are formed may be changed, or that he can produce in his crucible what nature produces in the bowels of the earth, by a generation as regular as that of a coach horſe; when he does not conſider, that to every generation, to every eſſential production, there is required a vivifying ſpirit, a principle of life and activity, and the concurrence of a thouſand other matters a thouſand virtues, that are hid from mortal eyes: when he does not ſee that a real tranſmutation of metals is naturally impoſſible, and an apparent tranſmutation is an illuſion and impoſture: when he will not fairly confeſs, that the extraction of the particles of gold, which may be found in other metals, or any other bodies whatever, is much too expenſive; that ſuch extraction coſts more than the particles are worth; that there is already enough, and too much gold in the world, for the real advantage of mankind, without deſtroying, at a great expence, other bodies more neceſſary or more uſeful, ſuch as wood, coal, quickſilver, and other minerals, &c. when he does not ſee, or pretends not to ſee the truth of all this, he will always appear, in the eyes of the philoſopher, as either fool or knave.

VI. When the ſame adept imagines, therefore, that it is poſſible to diſcover the philoſophers ſtone,

or,

or, what is ſtill more abſurd, a panacea, or univerſal remedy for all diſeaſes, it is time that he were locked up for his own benefit. It is the height of extravance to believe, that there is in nature any one body, or any compoſition of different bodies, which contains, at the ſame time, particles that are ſalt, cauſtic, acid, corroſive, balſamic, ſweet, oily, &c. &c. and, if this were poſſible, that theſe particles would not deſtroy each other by their reſpective ſpecific virtues: that the different diſeaſes of the human frame do not require medicines that contain bodies of different properties and different effects: that one and the ſame medicine can reach the ſeat of every diſorder, and there exerciſe its operations, and produce its effects; and ſo of the reſt. I am not ignorant that the alchymiſts ſuppoſe, with the appearance of truth, that the human body contains a principle of life, a moving ſpirit which animates all its ſprings; and that they pretend to cure this principle by their panacea: but this pretence is ſtill more abſurd than all the reſt. They would cure ſomething of which they have no knowledge, of which they cannot form the leaſt idea! They would cure ſomething that they believe to be ethereal or immaterial, by elixirs and other remedies which are entirely corporeal! As well or better might they cure this principle of all its diſorders by muſic, as the bite of the tarantula is cured. It is this which has occaſioned the ſagacious Mr. Harris to ſay, where he diſtinguiſhes alchymy from chymiſtry, that the former is *an art without art, whoſe beginning is falſhood, its continuance labour, and its end beggary.* It was for this reaſon alſo that ancient Rome baniſhed thoſe who exerciſed this profeſſion, and that the canons of Chriſtian Rome have ſince thundered their cenſures againſt it. There is one advantage, however, that this dangerous madneſs has produced, which is, that the ſearchers after the philoſophers ſtone, and the univerſal remedy (at leaſt thoſe of the moſt judgment and ability) have diſcovered in their purſuits

ſuits ſeveral matters both uſeful and curious; as new colours, remedies, the compoſitions of glaſs, porcelain, and many other like matters.

VII. The terminology of alchymy is altogether as abſurd as its object; and the books, which have been wrote on this pretended ſcience, are a diſgrace to the human underſtanding. Expreſſions conſtantly dark, without ideas, and without connexion; barbarous terms to expreſs things the moſt ſimple and natural; a ridiculous jargon, and myſtic explications, at which good ſenſe perpetually ſtumbles, compoſe the eſſence of theſe works; and it would be for ever vain there to ſeek, either demonſtration, reaſon, or the appearance of evidence.

VIII. Let us return to common chymiſtry; to which are alſo given the names of the *Spagyric* and *Hermetic Art*, *Pyrotechny*, &c. This art is inceſſantly occupied in *ſeparating* and *uniting*; according to its motto *Solve & coagula*. The means that it employs are the air, earth, water, and eſpecially fire. It is ſubſervient ſometimes to alchymy, ſometimes to philoſophy, ſometimes to the liberal or the mechanic arts, but above all to medicine: for which reaſon ſome authors have divided it into metallic and medicinal; others into philoſophic and medicinal; and the late M. Stahl ſaid, that it had three parts: 1. *Zymotechny*, which treats of fermentation: 2. *Halitechny*, which treats of ſalts: and, 3. *Pyrotechny*, that deſcribes its operations on metals and minerals by means of fire. An honeſt and judicious chymiſtry may be ſaid to be the foundation of a good philoſophy and a good pharmacy; as will appear to all ſuch as ſhall attentively conſider what we have here only juſt mentioned.

IX. They, who would apply themſelves to this laborious and ſeducing art, will do well to furniſh themſelves with a good dictionary of its technical terms, as that of *William Johnſon*, or ſome other ſuch: 2. To procure a good catalogue of the principal natural bodies: 3. To begin by the ſimple compoſition or mixture of bodies, and to proceed naturally, and without too much ſpeculation, up

to the double, triple, quadruple, &c. mixture of bodies. The chymiſt ſhould obſerve, 4. The time, and the order in each operation: and, 5. Carefully conſider what each proceſs is intended to promote by the aid of chymiſtry. In this manner he may purſue his enquiries and operations by inſenſible degrees, till he arrive at its moſt complicated labours, and moſt important enterpriſes.

X. The cabinets, the libraries, and bookſellers ſhops, ſwarm with treatiſes on chymiſtry. A judicious catalogue of them is to be found in the *Chymical Bibliotheque of Albinus*. A good choice in the works that are to be read, and a good method in the operations that are to be purſued, are above all things neceſſary. The ſtudent in the courſe of this ſcience will find falſhood, enthuſiaſm and extravagance, conſtantly purſue, and too cloſely approach, truth and reaſon. After he has formed a good ſyſtem, he ſhould conſult the profeſſors, and chymiſts of known ability, unite himſelf with them, and obſerve their operations: and laſtly, he muſt employ himſelf aſſiduouſly to the buſineſs, labour at the furnace, reſolve, unite, refine, and conſtantly think and reflect.

CHAP. XXXV.

Of Pharmacy.

I. WE are now come to Pharmacy; the laſt part of phyſic in general, and of the materia medica in particular. This art teaches the conſervation, the preparation and mixture of medicines; and forms, at the ſame time, the knowledge, and the practice of the apothecary. The phyſician ſhould underſtand by the ſtudy of the medicinal matter, as well as by daily practice, the good medicines, together with their effects; and ſhould be able to point out to the apothecary all

the ingredients which enter into the compoſition of ſalutary remedies: the latter is to furniſh his ſhop with them, to know their qualities, how to prepare them, and to compound them according to the preſcription of the phyſician, or the wants of ſuch as may require them. The phyſician ſhould have a rational and philoſophical judgment of remedies; but to the apothecary a mechanical knowledge of theſe matters is all that is neceſſary.

II. From theſe conſiderations ariſes the cuſtom, that is received in the moſt civilized countries of Europe, for the Superior college of phyſic, or the Senate of health, to iſſue an ordinance, or general diſpenſatory, containing an account of all the drugs, medicaments and compoſitions that privileged apothecaries are to have in their ſhops. In conſequence of this diſpenſatory (ſo called from the technical term *diſpenſatorium)*, every apothecary is obliged to furniſh his ſhop with the remedies there preſcribed, and is forbid to have any that are not therein mentioned. The medical faculty of Paris have publiſhed a medicinal code under the title of *Codex medicamentarius*, *ſeu Pharmacopœia Pariſienſis*, which is a rule to all phyſicians, chirurgeons and apothecaries of that capital, and of all other towns alſo in that kingdom.

III. The faculties or colleges of phyſicians ſhould uſe their utmoſt precaution not to ſuffer any drugs or medicaments to be inſerted in their diſpenſatories, but ſuch whoſe ſafety and efficacy have been atteſted by phyſicians of the greateſt ability, and the longeſt experience. On the other hand, all medicines of a doubtful, dangerous, hurtful, or venemous nature, ought to be proſcribed under ſevere penalties. It appears from hence how ridiculous it is for common people to imagine, that apothecaries fill their ſhops with a thouſand unknown plants, inſects, animals, ſtones, &c. of which they know the occult virtues, but carefully conceal them from the vulgar. Nothing is more falſe than ſuch an opinion: every thing is preſcribed to the apothecary,

apothecary, even to the preparation of medicines, and all that enters into their compoſition: and every phyſician knows, or ſhould know at leaſt, every plant and every drug that is *officinal*. From what is here ſaid it appears, moreover, how dangerous it is to permit empirics, vagabond mountebanks, and hawkers of medicaments of every kind, to carry about their murdering noſtrums in cities, and more eſpecially in diſtant countries. Who can tell what pernicious ingredients are contained in thoſe pretended remedies; when, at the ſame time, the moſt celebrated faculties of phyſic employ ſo much pains and care in the compoſing of good diſpenſatories? The faculties or colleges of phyſic ſhould alſo viſit frequently, at leaſt annually, the ſhops of the principal apothecaries, and examine if they be provided with the medicaments preſcribed by the diſpenſatory, and if they be of proper qualities; and ſhould likewiſe take care that the apothecaries do not vend ſuch as are forbid, as poiſons, &c.

IV. All remedies or medicaments are, as we have ſaid, either *ſimple* or *compound*; pharmacy, therefore, is divided into two parts; which are, 1. The preparation; and, 2 The compoſition or mixture of medicines: and we find it ſo divided in the treatiſe of Dr Wedel, *de Pharmacia in artis formam redacta*. The methods of performing theſe different preparations and compoſitions are to be learnt by the practice of pharmacy itſelf. We ſhall not enter into this labyrinth, nor undertake to reconcile thoſe two pharmaceutic axioms, one of which aſſures us, that *contrariorum contraria ſunt remedia*; and the other, that *ſimilia curantur ſimilibus*; nor to explain the virtues of *narcotics*, *purgatives*, *emetics*, *precipitants*, *aſtringents*, and other powers which are attributed to divers medicaments. Many learned men have alſo divided all medicines into *corroboratives (confortantia) alteratives*, which change the active powers in the human body *(alterantia)*, and *evacuants*, which diſcharge the body of ſuper-

fluous or peccant matter, by the excrements, perſpiration, urine, &c. *(expellentia ſive purgantia)*. But theſe diſtinctions, although they were not pedantic, belong rather to the doctrine of the materia medica in general, than to pharmacy in particular.

V. *The artificial preparation* of medicines is either *mechanical* or *chymical*. Theſe different kinds of preparations have given occaſion to ſome authors to divide pharmacy into *Galenical* and *Chymical*; each of which methods have their advantages and inconveniences. The former leaves the medicaments moſt in their natural ſtate, not altering the original property of the medicine; the latter concenters, in a greatter degree, the virtues of the medicaments, and by ſeparating ſuch parts as are foreign or uſeleſs, diminiſhes the maſs or quantity of the remedy, and conſequently renders it leſs liable to weaken the ſtomach

VI. In the *compoſition* or *mixture* of remedies there are three things to be conſidered: 1. If it be neceſſary to augment the force, the virtue, or effect of one ingredient by adding another to it: 2. If a medicine by doing good one way may not do harm another, and if by compoſition the pernicious effect may not be prevented, by taking away ſome natural property of that body, or by enveloping its points in ſome oils or ſyrups: 3. If the diſguſt of the ſick may not be prevented by rendering the medicines leſs diſagreeable and repugnant to his taſte, or by conveying it in ſome vehicle. In all theſe caſes the apothecary ſhould take great care not to deſtroy, in his mixture, the virtues of one body by another, and by that means render their effects abortive. For the reſt, all depends, in preparations as well as in compoſitions, on the ſeveral drugs and medicaments being freſh, pure, and of a good quality; as a ſmall quantity of ſuch as are good will have a quicker and more powerful effect than a very large quantity of ſuch as are bad.

VII. Many

VII. Many authors have wrote on pharmacy; among which are *D. Rivini Diſp. V. de medicamentorum officinalium cenſura*; *Helmontii Pharmacopol. et diſpenſatorium modernum*: as alſo the Pharmacopœia of *Bauderon*, *Quercetan*, *Zwelfer*, *Charras*, *Lemery*, and many others.

VIII. The ſigns or characters of which phyſicians and apothecaries make uſe, not only to expreſs the medicines themſelves, but alſo their quantities and preparations, form a kind of occult ſcience for the profane vulgar: there are, however, many books in which theſe ſigns are deſcribed and explained. We cannot ſufficiently recommend, as well to phyſicians as apothecaries, carefully to attend to theſe ſigns, and not to uſe them without a moſt ſcrupulous preciſion, as a very ſlight inadvertence in this caſe may have a fatal conſequence. The moſt eaſy and certain method is, not to make uſe of them in preſcriptions, eſpecially to expreſs the quality of the ingredients, but to write their names at length; which is the method now uſed by cautious phyſicians, in order to prevent every poſſible ambiguity.

CHAP. XXXVI.

Of Chirurgery and Obstetrics.

I. *CHIRURGERY is that branch of the therapeutic art which is exerciſed on the external parts of the human body when they are injured*; and phyſic ſometimes reſigns the internal parts alſo to its care, as in lithotomy, the trepan, venereal diſorders, &c. The limits of many parts of phyſic and chirurgery are ſo intimately connected, that it is impoſſible preciſely to diſtinguiſh them, and to aſſign to each of them the exact ground on which it ought to exerciſe.

II. But

II But as chirurgery is principally concerned in external operations, we ſhall only conſider it here from that point of view, having already ſufficiently explained what relates to the cure of internal diſeaſes. Chirurgery, then, is divided into *ſpeculative* and *practical*: the firſt deſcribes what the ſecond executes. All its operations are reduced into four claſſes: 1. The firſt, named *ſyntheſis*, is employed in what are called *ſolutions of continuities*, that is, the rejoining of ſuch parts as have been ſeparated: 2. The ſecond, named *decreſis*, divides thoſe parts whoſe union is incompatible with health: 3. The third, called *exereſis*, takes from the human body that which is foreign and uſeleſs, or injurious to it; and that by two methods, either by extraction, in taking from the body that which is formed therein, or by detraction, which is the taking away that which has been introduced without: 4. The fourth, named *protheſis*, ſupplies that which is wanting.

III. Opportunities frequently offer in France, in England, Germany, and elſewhere, of making a complete courſe in chirurgery, and of attending the explications of all its different parts by a profeſſor: but as theſe opportunities are neither ſo univerſal, nor ſo frequent as could be wiſhed; and as lectures merely verbal and theoretic are not ſufficient, ſeeing that the ſtudent ſhould apply to operations, and ſhould acquire, beſides knowledge, a great dexterity of practice, what follows ſhows nearly the method that we think the moſt eligible to make him an able proficient in an art that is ſo uſeful, ſo indiſpenſably neceſſary, and conſequently ſo important to mankind.

IV. He, who devotes himſelf to chirurgery, and deſires to excel in it, ſhould early apply himſelf to the ſtudy of the liberal arts, and eſpecially to the knowledge of the Greek and Latin languages, as not only all the terms of his art are taken from thoſe languages, but the beſt treatiſes on anatomy and chirurgery are wrote in Latin. He ſhould then bind

bind himſelf to the ſtudy and practice of the art under the immediate inſpection of ſome able chirurgeon or operator, and apply himſelf as ſoon as poſſible to its manœuvres. The motto of every chirurgeon ſhould be *oculoque manique*. In the courſe of his ſtudy, he ſhould frequent the anatomical theatres, and the ſchools of chirurgery, where lectures are delivered, and operations performed, by profeſſors and able maſters in the art.

V. *Anatomy* and *phyſiology* are the principles and foundation of chirurgery; without which it cannot well and ſafely perform even the operation of phlebotomy. To theſe the ſtudent cannot too aſſiduouſly apply; and of theſe the maſter ſhould never loſe ſight in his operations: each of them ſhould alſo be acquainted with the materia medica, and eſpecially the nature and virtue of thoſe drugs which enter into the compoſition of ointments, plaiſters, balſams, injections, and other external remedies, of which they make daily uſe. The *therapeutic* ſcience they will find not leſs neceſſary.

VI. The ſtudent ſhould next acquire the knowledge of all the *inſtruments* neceſſary to his art; of which the number is not only very conſiderable, but daily encreaſing, by the inventions with which France, England, and ſome other countries, are continually enriching chirurgery: and the greateſt part of theſe inſtruments are alſo ſtill ſuſceptible of further improvement. The application of the fungus or excreſcence of trees that has been made, of late years, to amputations and other large hemorrhages, is a diſcovery of no ſmall importance; for formerly they were obliged to employ the tourniquet, which was not in many caſes at all applicable, and which therefore rendered amputation in thoſe caſes impracticable. We cite this ſingle example merely to ſhow the importance of numberleſs like inventions which all tend to the perfecting of chirurgery. The profeſſors or maſters ſhould carefully explain to their pupils all the different ſorts of inſtruments.

VII. The

VII The *bandage* is an object of much greater importance in chirurgery than is commonly imagined: it is a part of the art that requires a good deal of addreſs and practice; and profeſſors and chirurgeons ſhould well explain to their pupils the rules and methods to be obſerved in applying it.

VIII. The *charitable and military hoſpitals* form alſo admirable ſchools for the young chirurgeon. It is there that the evils of wounds and infirmities promote the good of mankind, who are all liable to like accidents. It is there that the ſpeculative chirurgeon plans, extends, and confirms his ſyſtem; it is there that practical chirurgery forms the judgment, the eye, and the hand of her diſciples: and it is there that theſe make their firſt eſſays, and perfect their experience.

IX. There are yet many arts, trades or profeſſions, that relate to phyſic or chirurgery; ſuch as oculiſts, dentiſts, bleeders, cuppers, &c. but as the art of each of theſe is founded, more or leſs, on the principles of the different parts of phyſic, which we have already explained, we ſhall refer the profeſſors of theſe arts, and our other readers to thoſe parts, that we may not diſguſt the latter by uſeleſs repetitions.

X. But we cannot entirely paſs over in ſilence the *obſtetric* art, which not only forms a diſtinct branch, but is an art of the higheſt importance to the human race, although it be neglected in many countries of Europe, even among thoſe which are the more civilized. It is an art, moreover, that is, above all, intereſting to that delicate ſex, who, to promote our happineſs, and to provide the world with new inhabitants, are expoſed to the greateſt inconvenience, miſery, and danger; which the ingratitude of men, and the negligence of legiſlators have not diminiſhed by taking proper meaſures to promote this art, eſpecially in places far diſtant from the capital. We can treat, however, but very ſuperficially on a ſubject where it is ſo difficult to

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ſpeak without giving offence to modeſty; eſpecially as we have not, like the author of the *Philoſophical Venus*, the art of conſtantly placing the hind in the room of Iphigenia.

XI. Whatever they may tell us of ſome people in America, where the huſbands are delivered inſtead of their wives; or of the women of Peru, who never keep their beds on theſe occaſions; or of the men of Bern, who formerly took to their beds when their wives were delivered, and ſent them to the plough; and notwithſtanding the prodigies we daily ſee of this kind, among the wives of ſoldiers and ſuttlers who follow the army, it is nevertheleſs certain that every birth, even the moſt regular, is a kind of miracle: it is true, that it is a miracle which is every day performed, and for that reaſon is not regarded as ſuch: it is true, likewiſe, that nature herſelf takes ſuch proper meaſures, that in happy and regular deliveries, a common female peaſant can do the office of the midwife; but in difficult labours, or irregular poſitions, which are moreover very frequent, the moſt able man-midwife ſometimes finds himſelf greatly embarraſſed.

XII. It is for this reaſon, that wiſe and humane legiſlators have eſtabliſhed ſchools for the operators of both ſexes in this art, where they are inſtructed by able profeſſors, who explain to them the anatomy of the generative parts; teach them *that dexterity of hand* which they are to practiſe; and make them acquainted with the inſtruments which they may have occaſion to uſe, the manner of uſing them, and the caſes in which they may and ought to be uſed with ſucceſs; the rules that will be convenient to obſerve from the time of conception, to and after delivery, as well for the mother as the child; the ſigns of pregnancy; and, in a word, every thing that relates to lying-in, and to thoſe whoſe profeſſion it is to expedite and facilitate its operations.

CHAP.

CHAP. XXXVII.

1. Of the Practice of Physic. 2. Of Medicinal Prudence. 3 Of the Decisions of the Faculty.

I. IT would be to engage in repetitions equally disagreeable to our readers and ourselves, were we here to repeat all the detached reflections we have made on the practice of physic, in the chapter on physic in general, in those on pathology, the semiotic, and the therapeutic, to which those subjects naturally led us: but there still remains a number of observations to be made on this head, and which we shall endeavour here to range in a natural and systematic order.

II. The art of physic has two objects; 1. The preservation of man's health; and, 2. Its restoration when banished by disease: and from these arise its two practical doctrines, which are, 1. The *dietetic*, which is also called the *hygieina* or *methodus tuendæ sanitatis*; and the *therapeutic*, of which we have already made the analysis. The first of these is founded principally on physiology, and the second on pathology, which form the two grand principles of physic in general.

III. The doctrine of the diet may be considered from different points of view. 1. It is either *general*, *natural*, *special*, or *particular*: 2. Its object is man, either in *health* or *disease*: 3. It is founded on *theoretic* maxims, or on simple *experience*.

IV. The disinterested physician must be persuaded, that it is much better to prevent disorders than to cure them, and will act in conformity to this opinion, with all those who shall seek his advice. With regard *to diet in general*, as it relates to the whole race of mankind, it is an universal maxim, that man may make use of all the earth produces, but that the least abuse, the least excess is detrimental to his health: even the most pernicious

nicious poiſons are converted into ſalutary medicines, when taken in ſmall quantities; as the paſſions become uſeful to the human body, when their effects are moderated. Sobriety is the baſis of health, but with this it is impoſſible to aſſociate intemperance.

V. *The national diet* is founded on the prevailing temperament of a people, or on certain diſeaſes with which they are afflicted, or on the climate, &c. The ancient Jews, for example, were filthy lepers, and addicted to inebriety. Abraham enjoined them circumciſion, and Moſes forbade them the uſe of ſeveral ſorts of foods, preſcribed them a ſalutary regimen, and inculcated frequent purifications: but we do not find that this legiſlator preſcribed any precautions, or regimen, againſt a diſorder to which whole provinces of their deſcendants in Paleſtine were ſubject, and which was, to be poſſeſſed by the Devil. Mahomet forbade the uſe of wine and ſtrong liquors to the Arabs and Saracens, to which they were too much inclined, in a country ſo hot as Aſia: the northern nations, the Ruſſians and the Swedes, make much uſe of brandy and intoxicating wines: in Italy, in Portugal and Spain, the beggars aſk charity to purchaſe a pound of ice or melted ſnow, as our beggars aſk for a morſel of bread: in Denmark the people ſubſiſt principally on oatmeal, which is a preſervative againſt the diſeaſes of the ſkin: the Engliſh are great eaters of fleſh: the French live almoſt entirely on bread. All theſe matters, and a thouſand others of the ſame nature, are founded on the natural diet, neceſſary to each people and each climate. The phyſician ſhould have a due regard to this, and not imagine that the mode of living, the aliments or the medicines, ſhould be conſtantly the ſame in all countries.

VI. The *ſpecial diet* is founded on certain infirmities and diſorders, with which it is the lot of many men to be afflicted. One regimen, for example, is proper to aſthmatics, another to hydropics, to the gouty or to the hypochondriac, to thoſe who

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are afflicted with the gravel or the cholic, &c. The phyſician ſhould likewiſe be able to give ſalutary advice, founded on theory and experience, to every man, who without being abſolutely ſick, finds the firſt attack of a diſorder

VII. The *particular diet* is foûnded on the temperament of each individual, on the eſſential conſtitution of his ſeveral organs, and of his whole united frame. Now as the conſtitutions of men are infinitely diverſified, each one ſhould know, by daily experience, what regimen is agreeable to his particular temperament, what are the aliments that do him moſt good, or cauſe him leaſt injury; if moderate or violent exerciſe be beſt adapted to his ſtate; if he can ſupport the cold, or find more advantage from warmth; and ſo of the reſt. It is from hence that aroſe the proverb, that at the age of thirty, every man ſhould be his own divine, lawyer, and phyſician. An able phyſician however, who has thoroughly ſtudied his art, and makes it his daily practice, is capable of giving important advice relative to diet, and to direct ſuch as deviate from the right path by ignorance, by prejudice, or caprice.

VIII. With regard to the ſecond diſtinction, it is natural, that a body either attacked or debilitated by diſeaſe, ſhould require a very different regimen from one that is in health and vigour. We have already made (in the chapter on phyſic in general) ſome obſervations on the diet of the ſick; and we ſhall only add here, that a ſtrict regimen is proper for ſuch only as are really diſordered, and that, with regard to thoſe who are in health, a too rigid diet is worſe than a debauch. There is a midway, however, between a great intemperance and a ſcrupulous regimen; and it is this mediocrity that a reaſonable man will follow, and not imitate the imaginary ſick, who is unable to determine, without conſulting his phyſician, whether he ſhould traverſe the length or the breadth of his chamber.

IX. Laſtly,

IX. Laſtly, the diet is found on philoſophical principles and theory, or merely on experience. A phyſician, for example, may make ſo juſt and accurate an analyſis of tea, coffee, tobacco, liquors, &c. as will enable him to draw infallible conſequences relative to diet, either general or particular. Practice alſo may have given him occaſion to make ſuch judicious obſervations on theſe objects as are almoſt equivalent to a theory: and enemy as I am to mere empiriciſm with regard to phyſic, yet I readily confeſs, that I place great confidence in the long practice of a phyſician, who is capable of making judicious reflections. There are ſeveral authors, who have made the hygieina or diet their particular ſtudy, and have wrote entire treatiſes thereon. Among theſe, the maxims of the ſchool of Salernum (a city of the kingdom of Naples, where there was formerly a celebrated faculty of phyſic) are very well known; but they are alſo very ludicrous, and conſequently in many places trifling.

X. *The medicinal prudence*, in the practice of the art, relates principally to the eſteem and confidence which the phyſician ſhould endeavour to obtain, as well of the public as of his patient; and is an object of much greater conſequence than is commonly imagined. He ſhould therefore baniſh from his behaviour and converſation, eſpecially in his practice, every thing that has the appearance of quackery or pedantry: there is a juſt mean to be obſerved, here, between a moroſe and aſſuming taciturnity and a loquacity that confounds and fatigues the ſick. The prudent phyſician will not garniſh his diſcourſe with the technical terms of his art, nor will he affect ſcrupulouſly to avoid them: he will not diſcover danger in every incident, nor will he endeavour to inſpire his patient with unconcern when he ſees him on the point of death: he will not perpetually exclaim, *ſo much the better* or *ſo much the worſe*: nor will he place an unbounded confidence in his art, or imagine that he has it always

ways in his power to recall his patient from the gates of death; nor on the other hand, will he diſcover tokens of deſpair on every unforeſeen and unfavourable appearance: but he will be conſtantly prudent, and conſtantly prepared for every accident; and when he has formed a good indication, he will accuſtom himſelf to come to a ſpeedy reſolution; for there are certain revolutions in diſeaſes, where it is neceſſary to ſeize the lucky minute, and where an opportunity once loſt, is loſt for ever.

XI. *The deciſions of the faculty* in general, and of able phyſicians in particular, are matters of ſome conſequence in the practice of phyſic. Sometimes the legiſlature conſults the body of phyſicians, and ſometimes particulars among them, relative to laws that it propoſes to eſtabliſh: ſometimes the tribunals require their advice in difficult caſes: and ſometimes there are councils of health appointed, as in times of public calamity by plagues, or other contagious diſorders; or in matters of public concern, as for example, in the caſe of inoculation: their opinion is alſo conſulted in doubtful murders; in determining whether a child were born living or dead; in the affair *de partu legitimo*; on ſuſpicions of poiſon; and in a thouſand like caſes, eſpecially among ſuch as belong to the canon law.

XII. Individuals likewiſe, who labour under painful, and dangerous or inveterate diſeaſes, frequently require the united advice of ſeveral phyſicians of diſtinguiſhed ability, or ſometimes of the whole faculty, on the nature of their diſorders, and the methods of cure; and theſe form what are called *conſultations*.

XIII. All theſe matters, taken in their full univerſality, form a doctrine that is called *juridical phyſ.* (medicina forenſis) and it is ſufficiently evident, that theſe *medico legal deciſions* ought to be founded on the general practice of phyſic. Many authors have wrote diſtinct treatiſes on this ſubject, to which we refer our readers, ſuch as *Valentini Pandectæ*

Pandectæ medico-legales, and the *Novellæ medico-legales* of the ſame author: *Bohnii medicina forenſis: Zittmanni medicina forenſis: Amman de vulnerum lethalitate*, and the ſame author in his treatiſe intitled *Irenicum Numæ Pompilii cum Hippocrate*, &c.

XIV. It is an important article in the clinic or practical part of phyſic, and eſpecially in juridical phyſic, for every phyſician inceſſantly to conſult his talents and his conſcience, and not to be gui led in his practice or in his deciſions by ignorance, and much leſs by malice: it is ſcarce poſſible for man to commit a crime more atrocious, and more diſpleaſing to God, than this.

XV. We cannot conclude theſe obſervations on phyſic in general, without mentioning two works that will be of the utmoſt utility to ſuch as devote themſelves to the ſtudy of this ſcience: the one is the *Medicinal Hiſtory of M. le Clerc*, phyſician of Geneva, and the other, the treatiſe of *M. Vander Linden de ſcriptis medicis*, which contains an admirable catalogue of all ſuch books as have been hitherto wrote on phyſic.

CHAP.

CHAP. XXXVIII.

OF PHILOSOPHY.

I. THAT deſire of happineſs which is ſo natural to mankind, that it becomes the motive of all their labours, and the ſpring of every action, it was that deſire, I ſay, which alone gave birth to philoſophy in the earlieſt ages of the world. Each mortal, by following this inſtinct, doubtleſs endeavours to render his condition more advantageous, that is, to render himſelf happy; but as all men have not either ſufficient diſcernment, or ſufficient opportunity, to diſcover the path that leads to felicity, ſome among them have aroſe, who have perſuaded others that they had diſcovered that path, or, at leaſt, they applied themſelves expreſſly in the ſearch of it; and have eſtabliſhed celebrated ſchools, where they might point it out to their fellow citizens. Theſe new guides, in the career of good fortune, have called the ſcience that leads to happineſs by the name of *wiſdom*; and conſequently their doctrine the *love of wiſdom*; which is expreſſed by the Greek word *philoſophy*.

II. It is naturally and morally impoſſible for all mankind to behold the ſame object from the ſame point of view; and conſequently there ſoon aroſe, among theſe maſters in philoſophy, different opinions concerning happineſs, and the road that leads to it: from hence came the different ſyſtems in philoſophy, and thoſe famous diſputes, which at this day appear to us ſo inſipid and frivolous. All that there is of certainty in this matter is, that none of theſe philoſophers perceived that the happineſs of each individual reſides in his opinion; and it is with reaſon that *opinion* has been called the *queen of the world*. *Paſſion*

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is nothing but a vehement deſire we have to ſatisfy our opinion in what we think capable of procuring our felicity. Every man derides and cenſures his neighbour for his bad taſte in this purſuit, and for the choice of the object that is to render him happy. The covetous blame the prodigal; the ſcholar, retiring to his ſtudy, condemns the courtier immerſed in the diſſipations of the world; the petit-maitre, in return, laughs at the ſcholar; the connoiſſeur in paintings, in antiquities, or natural curioſities, cannot account for that exceſſive love which the miſer has for his money; the uſurer ſhrugs his ſhoulders, and is aſtoniſhed that any one ſhould miſpend his time in the purſuit of learning; the man of ſanctity, lifting his eyes toward heaven, laments the wretched taſte for earthly enjoyments; and the man of the world, in his turn, ridicules the enthuſiaſt: in a word, each one is unable to account for his neighbour's taſte; and no one is ſatisfied, but in proportion as he is able to gratify his favourite paſſion, that is, what in his opinion conſtitutes human happineſs. It is apparent that we do not ſpeak here of eternal happineſs, for that is the object of theology, but of temporal felicity; which the mereſt bauble is as able to procure as any thing of real uſe. It is pleaſant enough, however, to hear a philoſopher cry out, *Mortals, you cannot be happy but by ſuch and ſuch means, and by ſuch and ſuch maxims*; but he forgets that the happineſs of a woman frequently conſiſts in a diamond or trinket; and that of a courtier in a title or riband.

III. The inquiry after happineſs alone, and the duties which reſult from that inquiry, is far from being an immenſe affair; the ſubject is ſoon exhauſted. The maſter in philoſophy, however, muſt live, and to live he muſt have pupils: theſe pupils muſt be employed and amuſed, and for that reaſon new ſubjects muſt be provided. To this firſt motive a ſecond was added: the deſire of happineſs neceſſarily produced a deſire of inſtruction; and by that mean curioſity and utility were both gratified at the

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ſame time. The philoſophers were a ſet of men who devoted themſeves by profeſſion to the exerciſe of reaſon; and it is not ſurpriſing that they extended by degrees their ratiocinations to all objects that were ſuſceptible of it, and eſpecially to ſuch as had any affinity with their firſt inſtitute, or that required a complicated, deep, and difficult inveſtigation. Inſenſibly, therefore, they extended their inquiries to the cauſe of all things; aſcended to the firſt principle of all beings; and placed true felicity in that profound knowledge, according to the expreſſion of Lucretius.

Felix qui potuit rerum cognoſcere cauſas.

IV. The philoſophers amongſt the moſt ancient people of the world were called *ſages*, or wiſe men, as appears from hiſtory both ſacred and profane. *Thales* and *Pythagoras* in Greece were the firſt among thoſe that made an open profeſſion of this ſcience, who thought the title of ſage too faſtidious, and took the more modeſt name of *philoſophers*, or *lovers of wiſdom*. *Thales*, who was a native of Miletus in Ionia, and the firſt of the ſeven ſages, was the founder of the *Ionic ſect*; his moſt illuſtrious diſciples were *Anaximander*, *Anaximenes*, *Anaxagoras*, and *Archelaus*. Anaxagoras employed himſelf entirely in the contemplation of the ſtars, and when he was aſked if he had no concern for his country, replied, pointing to heaven with his finger, *I inceſſantly regard my country*. Pythagoras founded the ſect that was called *Italic*, becauſe it was ſettled in that part of Italy which was called Great Greece, and which now makes part of the kingdom of Naples. He borrowed from the Egyptians a myſterious manner of teaching by *numbers*; and to that he added a certain *harmony*, by which he explained the perfection in all objects. He believed the world to be animated, intelligent, and round. Not knowing what to do with the ſoul after its ſeparation from the body, he invented the doctrine of the *metempſychoſis*. His diſciples of greateſt note were Ocellus of Lucania, Archytas of Tarentum, Philolaus of Croton,

Croton, Parmenides and Zeno, both of Elea, and Meliſſus of Samos. Zeno was the inventor of the dialectic; the others applied themſelves cloſely to the ſtudy of natural philoſophy, and to the inveſtigation of its principles.

V. *Socrates* followed the career of theſe firſt philoſophers, but turned almoſt all his ſtudies toward *morality*. His maſter was Archelaus the Pythagorean. He was the firſt who began to reduce the confuſed ideas of thoſe who had gone before him into method; for which reaſon he is called by Cicero the *father of philoſophy*. His life was a model of frugality, moderation, and patience; and his doctrine abounds with wiſdom.

VI. Socrates, diſcovering a greater genius in *Plato* than in any of his other diſciples, had a particular attachment to him, and his labours were not loſt; for, among all the celebrated men who came out of the ſchool of Socrates, Plato was, doubtleſs the moſt renowned. He taught at Athens, and had, in a ſhort time, many diſciples. He eſtabliſhed his ſchool in the Academy, which was a place without the town, and from thence his followers were called Academics. According to Plato, the ſoul of man is only a ray from the Divinity. He believed that this particle, united to its principle, knew all things; but when united to a body, it contracted ignorance and impurity by that union. He did not entirely neglect natural philoſophy, like Socrates, but enquired into many queſtions which relate to that ſcience. He believed that all things conſiſted of two principles, *God* and *matter*. He likewiſe cultivated aſtronomy. His morality was the ſame in ſubſtance with that of Socrates.

VII. The diſciples of Plato formed alſo many new ſects. That, of which *Ariſtotle* was the founder, is doubleſs the moſt illuſtrious. This philoſopher was the firſt who formed, from the ſeveral parts of philoſophy, a complete ſyſtem. No one before him had treated ſeparately, and from principles, the different parts of this ſcience. He did

not regard logic as a part of philoſophy, but as a proper method whereby to diſpoſe the underſtanding to diſcover the truths that it contains. The *morality* of Ariſtotle is the moſt perfect of all his works. His *phyſics* conſiſt of notions and terms that are vague, and as trifling as obſcure. His diſciples and their followers were called the *peripatetics* of Lyceum, where he had fixed his ſchool.

VIII. Ariſtotle was not the only diſciple of Plato who deviated from the ſentiments of that great man: there were others who likewiſe placed themſelves at the heads of different ſects. *Arceſilas* was the author of a ſect that was called the *Middle Academy*. He declared that there was nothing either certain or true: and that the poſitive and negative might be maintained in all ſorts of ſubjects. *Lacydes*, who taught in the ſame ſchool as Plato, fifty-ſix years after Arceſilas, was the chief of another ſect that was called the *New Academy*. He acknowledged that there was a degree of probability, but that we could not aſſuredly know that any thing was abſolutely true. *Pyrrho*, about the ſame time, placed himſelf alſo at the head of a ſect. He improved on the dogma of the Academics; and maintained, that it was impoſſible to comprehend any thing: but Pyrrho could not comprehend himſelf. He believed that there was nothing true, nothing but what might be ſaid to be either this or that. His followers were called *Pyrrhonians*, or more commonly *ſceptics*, becauſe they ſearched without ever being able to diſcover any one thing.

IX. About the ſame time aroſe two ſects, who, with principles diametrically oppoſite, rendered themſelves highly celebrated, and divided at firſt the wits of Greece, and afterward thoſe of all the reſt of the world; and theſe were *Zeno* and *Epicurus*. Zeno was of Citium, a city in Cyprus. He taught in the porticoes of Athens, from whence his diſciples were called *Stoics*. The moſt famous dogma of Zeno and the ſtoics conſiſted in the principle of morality,

lity, which was, *to act in conformity to nature*, that is to ſay, according to the object of our deſires: on this principle, and on divers others, they formed the idea of a philoſophy altogether extravagant, and inſenſible to all external objects. The phyſics of Zeno had nothing new but the terms. The other ſect, which flouriſhed at the ſame time, was that of *Epicurus*; and they were called *Epicureans*. This philoſopher taught publicly at Athens, his native country, at the age of thirty-two years. He rejected all the chicaneries and ſubtilties of logic, and ſought the truth by means of the ſenſes. He attached himſelf greatly to morality, to which likewiſe tended all his other ſtudies; and his morality was as conſentaneous to the nature of man, as that of Zeno was contradictory, ſeeing that his firſt principle was, that pleaſure is the purſuit of man, and that it conſiſts in health of body and tranquillity of mind; and that it is the ſource and the end of a happy life, &c. Epicurus was alſo engaged, but with leſs ſucceſs, in the labyrinth of metaphyſics, and in phyſics: he adopted the ſyſtem of atoms, of which Democritus was the firſt author. In ſhort, maugre the evil interpretations and calumnies of his adverſaries, he inculcated by his doctrine, and by his example, frugality and ſobriety; and according to him death is not an object of terror: *For*, ſays he, *it is nothing ſo long as life ſubſiſts; and when it arrives life is no more; no man has ever felt his death.*

X. It is evident, that theſe ancient ſyſtems of philoſophy are at great variance with each other; and as truth is conſtantly uniform, it follows, that the greateſt part of theſe opinions cannot be true. This conſideration engaged *Patemon*, of Alexandria, under the emperor Auguſtus, to ſelect all that he found moſt rational in the doctrines of all the other philoſophers, whereof he compoſed a ſyſtem, and founded a ſect; and he, for that reaſon, gave to his doctrine the name of the *eclectic philoſophy*, from a Greek word which ſignifies to *ſelect*.

XI. The doctrine of Plato was at firſt in greater eſtimation than any of the others; and there were many celebrated Platoniſts under the Roman emperors down to Julian the apoſtate, who was himſelf one of them. The firſt Chriſtian doctors likewiſe declared for this philoſophy, as Juſtin Martyr, Tatian, Athenagoras, Origen, &c. But at length the philoſophy of Ariſtotle, perhaps of all others the moſt abſurd, took the lead; and truth was no longer ſought for but in the writings of that philoſopher. This violent fondneſs for his reveries began about the twelfth century; at which time a philoſophy was formed, that is commonly called the *ſcholaſtic*, and which is borrowed, in great part, from the writings of the Arabs, whom the ſcholaſtics, who were all attached to Ariſtotle, imitated in their ſubtile, ambiguous, abſtract, and capricious manner of reaſoning, by which they never hit the truth, but conſtantly went on one ſide, or beyond the mark. Toward the end of the fourteenth century, their ſpirits were extragavantly heated by logical diſtinctions, relative to that furious emulation, which was formed on the doctrine of Ariſtotle, between the *Nominaliſts* and *Realiſts*. The former had, for their chief, *Ocham*, an Engliſh cordelier, and a diſciple of *Scotus*. They maintained that the univerſal natures were nothing but words: and the others, who ſupported themſelves by the authority of *Scotus*, maintained that the ſame univerſal natures were beings ſtrictly real. Theſe diſputes divided all the univerſities of Europe: philoſophy was no longer employed but in *operations of the intellect, conceptions, abſtractions*, and ſuch like vain ſubtilties; and became a mere jargon, a confuſed heap of unintelligible ideas.

XII. At length, in the ſixteenth century, philoſophy began to deliver itſelf from the chains of terminology; men accuſtomed themſelves to philoſophize by reaſon, and not by verbal contention: they began to throw off the yoke, and without entirely deſpiſing Ariſtotle, they no longer believed him

him on his word. *Nicholas Copernicus*, who was born at Thorn, in 1473, and died in 1543, had already borne the torch of reaſon in the mathematics and aſtronomy: he had rejected the ſyſtem of the world that was invented by *Ptolemy*, and which the Greeks called *moſt wiſe and divine*; and had publiſhed his book *de motu octavæ ſphæræ*, and his treatiſe *de revolutionibus*, in which he eſtabliſhed his ſyſtem of the ſun's being immoveable, and of the motion of the earth. *Galileo*, who was born at Florence in 1564, adopted the ſyſtem of Copernicus, confirmed it, and improved it by new obſervations. This diſcovery of the truth coſt him five or ſix years confinement in the priſon of the inquiſition. He introduced a new and excellent method of reaſoning in philoſophical ſubjects.

XIII. *Peter Gaſſendus*, profeſſor of mathematics in Paris, alſo practiſed, in the beginning of the ſeventeenth century, a new method of philoſophizing, which contributed greatly to the progreſs of that ſcience. Laſtly *René Deſcartes* appeared, almoſt at the ſame time; and, by a method that had been but very imperfectly underſtood before, diſcovered more truths in philoſophy than all the preceding ages had produced; although, from that weakneſs which is natural to the human underſtanding, he has frequently mixed error with truth in his different ſyſtems. He treated on almoſt all the parts of philoſophy, eſpecially the mathematics, phyſics, and metaphyſics. Every one is acquainted with his famous ſyſtem of the *plenum* and *vortices*.

XIV. Before Deſcartes, *Francis Bacon*, baron of Verulam, chancellor of England, had expoſed the errors of the philoſophy of the ſchools, and the wretched method that was there purſued. He was one of the greateſt men that has ever appeared upon the earth. It was he who lighted that torch with which all his ſucceſſors have illuminated philoſophy; and in his writings are to be found the ſeeds of every new diſcovery, and of every new hypotheſis.

XV. After this golden Aurora, the philoſophic horizon was at once enlightened by three grand luminaries, which diſperſed many of thoſe clouds that hid the truth from mortal eyes, and diffuſed great lights, at leaſt, on many objects that lay buried in obſcurity It is evident that I here ſpeak of *Newton*, *Leibnitz*, and *Locke*, all contemporaries, and all living in the ſeventeenth century. All the world has heard of the renowned ſyſtem of Sir Iſaac Newton on ſpace and attraction; and every one knows with what ſagacity he has eſtabliſhed his principles, and with what force he has deduced their conſequences, by calling to his aid all that the mathematics, that the moſt acute and moſt ſublime calculations, could furniſh to form manifeſt demonſtrations: all the world has heard of the Theodicée of Baron Leibnitz, of his ſyſtem of monades or atoms; of the moſt perfect mundane ſyſtem; of the ſufficient reaſon; and of the pre-eſtabliſhed harmony: all the world knows his ſuperior talents in the mathematics, how greatly he has contributed to the inventing and the perfecting of the arithmetic of infinites, and with what facility he has reſolved problems the moſt difficult and moſt important. Laſtly, all the world is acquainted with that true anatomy, founded on reaſon and experience, which Mr. Locke has made of the human underſtanding; with thoſe moſt ſagacious, and moſt certain diſcoveries, which he has made in the courſe of his enquiries; and with thoſe juſt bounds which he has aſſigned as the extent of human knowledge.

XVI. After theſe great names, I ſhall mention only that of the late Baron *Wolff*, to whom philoſophy owes the new method, or rather the application of the method of mathematicians to philoſophical ſubjects. He has likewiſe elucidated and extended all the hypotheſes of M. Leibnitz, and has alſo wrote very conſiderable works on all the parts of ſpeculative philoſophy, and the mathematics. His mathematical elements form, moreover, the beſt work of that kind that there is in any language,

for

for beginners in thoſe ſtudies. It cannot be expected, when the narrow limits of this work are conſidered, that we ſhould here give an account of a great number of modern philoſophers, who are all perhaps of equal ability, though of leſs renown; and which we the more readily decline, as we are fearful of offending the modeſty of many living authors, whom we muſt admire in ſilence.

XVII. They, who ſhall read with attention the principles that we have laid down in the firſt and ſecond ſections, and the ſlight draught we have here given of the hiſtory of philoſophy, may without difficulty draw with us the following conſequences: 1. That philoſophers, in their reſearches concerning the cauſes of all things, have found themſelves obliged to reduce ratiocination into a ſyſtem; to confine it to certain rules, and form it into an art, which they have called *logic:* 2. That by endeavouring to explain to mankind the nature, the cauſes, and effects of happineſs, the inveſtigation of theſe objects has produced a ſcience that is called *morality*, to which are connected the doctrines of *natural theology*, *the law of nature*, *ethics*, *politics*, &c. 3. That from their endeavours to inveſtigate the nature of thoſe ſenſible and palpable objects which ſurround us, has reſulted a ſcience that is called *phyſics*, or natural philoſophy; which in like manner conſiſts of ſeveral branches that all concur to its perfection, ſuch as *optics*, *chymiſtry*, *hydraulics*, *mechanics*, and their dependant arts; with many others: 4. That by advancing ſtill further, and by endeavouring to comprehend the nature and properties of ſubjects that are not diſcernible by the ſenſes, but whoſe exiſtence is the reſult of ſpeculation and of a train of reaſoning, a ſcience has aroſe that is called *metaphyſics*; which has alſo many branches, as *ontology*, *pſychology*, *cosmology*, *pneumatology*, &c. 5. That from a deſire to know the extenſion, the figures, the meaſures of all bodies, and their diſtances from each other, &c. they muſt neceſſarily have recourſe to calculation; from whence reſult

the *mathematical ſciences*, whoſe principal branches are *arithmetic*, *geometry*, *algebra*, *aſtronomy*, &c.

XVIII. It is to theſe five capital objects that we ſhall here reſtrict philoſophy; without regarding the opinion of ſuch as include therein, grammar, rhetoric, chronology, hiſtory, and ſuperior ſciences, and many other like matters: for it is to confound the ſciences, and to occaſion confuſion inſtead of regularity, to introduce matters that do not eſſentially appertain to a doctrine; and not to diſtinguiſh between ſuch objects as belong to the imagination, the judgment, or the memory. There is no art or ſcience whatever, but has ſome affinity, either direct or indirect, with philoſophy, and that may not conſequently be ranged under that ſcience, by a ſmall extenſion of its limits: it would not be difficult to write a treatiſe on *the art of ſhoe-making*, according to the method of mathematicians; and grammar, in like manner, belongs much leſs to philoſophy, than brick-making does to architecture. Thoſe tables, or trees of genealogical ſciences, which the pedants find ſo admirable, and with which they are ſo delighted, to ornament the frontiſpieces of their learned labours, are, in fact, childiſh inventions, and only fit to amuſe, or rather puzzle the boys of the firſt claſſes or forms.

XIX. Let us here rather make ſome farther remarks that are eſſential to philoſophy in general. The eſſence, the ſoul of this ſcience, conſiſts in the inveſtigation of the cauſes of all things; and the grand principle of this inquiry conſiſts in that fundamental maxim, that *no effect is produced without a cauſe*; that *nothing is done without a ſufficient reaſon*. This ſyſtem of the ſufficient reaſon is, therefore, the baſis of all philoſophy, and without it nothing is philoſophical. To conſider the outſide of things, is to know them hiſtorically; to reſolve them, in order to know their principles and their cauſes, is to learn to know them philoſophically: and, in this manner, even hiſtory may be philoſophically ſtudied. This admirable ſyſtem of the ſufficient

reaſon,

reaſon, by diffuſing the ſpirit of philoſophy in the world, has already purged it of numberleſs dangerous ſuperſtitions: the fables of magicians, ſorcerers, ſpectres, ghoſts, the abſolute ſympathy, and a thouſand like reveries, have diſappeared from among men of ſenſe, to the very great advantage of the human race.

XX. Philoſophy may be again divided into *ſpeculative*, which includes the ſubjects of metaphyſics, morality, &c. and *demonſtrative* or *experimental*, which principally regards phyſics: ſeeing, that by the improvement of the human mind, by ingenious obſervations, and the aſſiſtance of numberleſs admirable inſtruments, modern philoſophers have diſcovered the means of explaining the principal phænomina of nature by experiments, and of demonſtrating their hypotheſes to the ſight, and to the touch: which afford proofs much more evident than thoſe of our anceſtors, which were drawn merely from logical inferences.

XXI. Finally, The true philoſopher is not he who has all the terms of the art at the ends of his fingers; nor he who is profoundly verſed in all the various ſyſtems ancient and modern; nor he who has gone through a complete courſe under ſome learned profeſſor, and who blindly adopts his opinions, and ſwears by the faith of his maſter; who has learnt hiſtorically, and ſo to ſpeak by rote, the philoſophy of Ariſtotle, Deſcartes, Newton, and Wolff. No: the true philoſopher is he that has philoſophy within himſelf; who reaſons, reflects, and of *himſelf* inveſtigates the cauſe of all things, and who has a ſpirit ſufficiently ſtrong to diſcover it, without devoting himſelf to any particular ſyſtem whatſoever.

CHAP. XXXIX.

Of Logic.

I. BY the word *Logic* is to be underſtood that ſcience which teaches to reaſon juſtly and methodically; whoſe end is the improvement of the underſtanding; which ſhows the right exerciſe of the judgment in the knowledge of things, and in the inquiry after truth, as well with regard to our own information, as for the inſtruction of others; and which gives, for that purpoſe, judicious rules to enable us to define, divide, infer, and conclude. It is eaſy to perceive, that all theſe rules muſt be deduced from nature, and from good ſenſe; and conſequently, that logic only reſtores to human reaſon what it has drawn from human reaſon: that the precepts of this ſcience are merely thoſe of reaſon reduced into a ſyſtem, and that its ſole buſineſs is to preſent us with a clue to guide us in the labyrinth of argumentation.

II. It is on this account alſo that logic is diſtinguiſhed into *natural* and *artificial*. The firſt is that operation which the mind of itſelf performs, without the aſſiſtance of art, in all its reaſonings; and of which we find traces even among animals, whoſe actions evidently prove that they are continually forming of ſyllogiſms, though we are unable to determine how far in this matter we are capable of excelling them. The ſecond is, the ſame operation of the mind or underſtanding ranged into a ſyſtem, which is directed by certain rules, and elucidated and improved to the greateſt degree; in ſhort, reduced into a regular art; as it is neceſſary among men, eſpecially among learned men, that every thing be in a methodical manner.

III. Among the ancients, logic was the intellectual art of tilting: the logicians were ever ready for the combat, and conſtantly armed at all points; but theſe arms were nothing more than barbarous and

and empty terms, which, however, drove away reaſon, and conſequently uſurped her place in every diſpute. The logic of Ariſtotle, afterwards adopted and followed by the ſchools, abounds every where with jargon, and conſiſts of a mere jumble of unintelligible expreſſions and abſurd terms, that tend much more to obſcure than elucidate the truth. Modern philoſophers have indeed cleared it of many of theſe ſcholaſtic pedantries, and have reduced it to a method more explicit and intelligible. Logic, however, ſtill remains a ſchool of arms, where youth are taught to attack, and to parry the thruſts of their antagoniſts. It frequently but unluckily happens, that the moſt able maſters of theſe ſchools are attacked by the cudgel of ſtrong ſenſe; and while they amuſe themſelves with thruſting tierce and quart, in a ſcientific manner, are knocked down by the ſtrength of their adverſary's arm; that is, by ſimple reaſon. Theſe coloſſes of common ſenſe are ſometimes met with in life, who without mercy cruſh the proficients in this art: and artificial logic has ſometimes, though rarely, the unlucky fate to daſh againſt and deſtroy itſelf by natural logic. Notwithſtanding theſe inconveniences, every man of letters ought to underſtand this art, not only as an ignorance of its terms is juſtly thought diſgraceful, and a ſign of great want of learning, but becauſe there is no better method to improve our reaſon, than conſtantly to obſerve a cloſe methodical manner in the exerciſe of that faculty. But on the other hand, they who ſhall expect to find any marvellous diſcoveries in artificial logic will be much deceived.

IV. The object of inquiry, in the exerciſe of logic, is the *truth*; and the mean that it employs to find it is the *human underſtanding*; and that term is to be taken here in its greateſt extent. As it is quite natural that each ſcience ſhould explain, 1. The object of its inquiry, 2. The inſtruments it makes uſe of in that inquiry, and, 3. The manner in which it employs thoſe inſtruments, Logic

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is therefore divided into three parts; of which the firſt makes, ſo to ſpeak, the anatomy of the *human mind*, and the analyſis of its operations: the ſecond that of *truth:* and the third explains in what manner this knowledge of the truth may be attained, and what are the character and qualities of this knowledge.

V. This ſcience begins, therefore, by explaining what is meant by the human *mind*, and the human *reaſon*; two objects that are not always ſufficiently diſtinguiſhed in common diſcourſe. It then examines what are the faculties of the human mind, which, it reſtricts to thoſe of *perception* and *thought*. In the next place, it deſcribes thoſe mental faculties that are called *invention*, *judgment* and *memory*; which it explains and derives from their true principle, and deduces certain conſequences from the three modes of thinking which reſult from invention, judgment and memory. From thence it paſſes to the examination of *ideas*, and of the *judgment:* it then ſhows what is a *propoſition*, and what are its properties. In the laſt place, it arrives at the grand operation of the underſtanding, which is that of drawing *concluſions*, and of forming *complete ſyllogiſms*. And it then finally conſiders the human mind in its *natural ſtate*, and in its greateſt *improved ſtate*.

VI. The ſecond part of logic determines what is to be underſtood by the word *truth*; and inveſtigates the ſources from whence it is derived. It diſtinguiſhes thoſe truths which ariſe from ſimple *ideas*, from ſuch as reſult from *judgment:* it likewiſe diſtinguiſhes *abſolute truths* from *probable truths*; ſuch as relate to the *eſſence* of an object, from ſuch as relate to its *qualities*. It then paſſes to the examination of *probability*; which is either hiſtoric, hermeneutic, phyſical, politic, practic, or moral. It moreover diſtinguiſhes thoſe ttuths that relate to the *exiſtence* itſelf of an object, from thoſe of its different *modes*, or properties of exiſting.

VII. The third part of logic teaches the method that the human underſtanding employs in the diſcovery

very of truth. Now according to logic, the knowledge of the truth is obtained either by *invention* or by *judgment*, which is the reſult of combinations: and the one and the other are applied not only to the different claſſes of truths, but alſo to the different degrees of probability. It diſtinguiſhes likewiſe between *perception*, *appearance*, *probability*, and *certainty*; and explains their ſeveral gradations. It then ſhows in what manner, in the ſearch of truth, thoughts proceed one from the other, in what order they ariſe, and what ought to be the concatenation of thoughts in order to form a *demonſtration*. Laſtly, logic deſcribes the artificial *methods* that are made uſe of to arrive at the knowledge of the truth, and which are either *theoretic* or *practic*. The former conſiſt in the *rules* to be obſerved in the art of reaſoning, and in uſeful *cautions* whereby to diſtinguiſh the true from the falſe: and the latter conſiſt in the *application* and the *practice*. On this occaſion, certain precepts are laid down relative to *meditation*; which is either *ſynthetic* or *analytic*. In ſynthetic meditation they endeavour to diſcover ſome new truths, and to combine them with others already eſtabliſhed In the analytic meditation they compare the concluſions with the principles, the principles with the definitions, and theſe with the ſimple ideas.

VIII. Such are the outlines of the three eſſential parts of logic. In order to render this part of philoſophy more intereſting, they have added other arts and ſciences, and which in fact ſeem naturally to belong to it; ſuch as, Firſt, The art of communicating and demonſtrating to others, in a manner clear and ſuccinct, ſuch truths as we have diſcovered or confirmed; and which is done either by *inſtruction* or *controverſy*: and for the conduct of which logic furniſhes the rules.

IX. Secondly, The *heuriſtic*, or *art of invention*, receives alſo aſſiſtance from logic, which furniſhes it with precepts, rules, and directions, to guard with caution againſt the rocks that are to be avoided:

ed: although the principle, the origin of invention lies in the natural diſpoſition of the mind itſelf, or in an aptitude of the genius.

X. Thirdly, *Methodology*, which teaches the manner of arranging ideas and matters in an order proper to make them perſpicuous, determinate, and agreeable. It is here that they examine and explain the method of reaſoning uſed by mathematicians; which the late M. Wolff has ſo happily applied to philoſophy in general, and without which it appears very problematic, not to ſay impoſſible, to aſcertain the truth in any ſubject whatever. Although we ought to be ſenſible of the utility, to approve and admire this method, we muſt not imagine, however, that thereby the human underſtanding acquires a degree of infallible certainty; or that a methodical demonſtration conſtantly implies an indubitable proof: and that after having eſtabliſhed majors, minors, drawn concluſions, and added corollaries, &c. &c. we have clearly demonſtrated the truth, and that our propoſition muſt appear to all the world equally evident and irrefragable.

XI. Fourthly, The philoſophic *hermeneutic*, or the art of diſcovering the truth in the writings or diſcourſes of others, by a juſt diſcernment, and a judicious interpretation of their words.

XII. Fifthly, *Mnemonics*, or the art of cultivating and extending the memory; which furniſhes many ſalutary rules for the exerciſe and improvement of this faculty of the mind, without which all the ſciences would be uſeleſs to mankind; and we ſhould even hope that the Supreme Being will continue it to us in eternity, ſeeing that the eternal happineſs of man depends on this property of the mind which forms the reminiſcence, and without that all future happineſs or miſery would be the ſame as to our preſent ſtate.

XIII. All theſe matters are to be learned by the ſtudy of logic itſelf, and for that reaſon we eſteem it as highly worthy of recommendation. For, conſider

ſider it merely as the ſcience that points out the road that leads to veracity; that enables us to diſtinguiſh between the true and the falſe; the apparent and the real; the ſpecious and ambiguous reaſonings of ſophiſtry from the ſolid arguments of true philoſophy; to diſcern ſuch propoſitions as are falſe and equivocal, and ſuch concluſions as are drawn from ſophiſms, from thoſe true and clear deductions which characteriſe ſtrict demonſtration; the human race owes it, without doubt, infinite obligations.

XIV. Let us add to all this, that good and ſound logic ſerves to defend us againſt thoſe ſnares which are laid for human reaſon by *paradoxes*, antitheſes, and other ſeductive figures of rhetoric, which this age ſo much admires, that every work is eſteemed only in proportion to the quantity of theſe it contains. Truth alone, however, ought to conſtitute the principal merit of every book. A paradox is, in general, a propoſition that is ſurpriſing and difficult to believe, and which contradicts common and received opinions, although it be, notwithſtanding, ſometimes true. He who firſt declared to the inhabitants of our hemiſphere, that there were antipodes, publiſhed a great paradox, which, nevertheleſs, was ſtrictly true. A geometrician, who aſſerts *that the contained is greater than the container*, pronounces a ſeeming paradox, but, at the ſame time a certain truth: but the man of letters, who ſhall ſeriouſly aſſert that the introduction of arts and ſciences has cauſed the unhappineſs of mankind, advances a falſe paradox; and, what is more, a dangerous abſurdity.

CHAP. XL.

Of Morality in General.

I. MORALITY is an excellent denomination, which we owe to Cicero, and ſignifies

ſies the doctrine of manners, or the ſcience that teaches the right conduct of the actions of life. Now, as all thoſe actions, whoſe ſeries forms our life and characteriſes our manners, ought to be regulated by our duties, and as there are duties which we owe to the Supreme Being, to ourſelves, to other creatures, to men our equals, conſidered as individuals, and to ſocieties of men in general, it follows, that this ſcience has ſeveral branches or particular doctrines, which are each of them of ſuch extent and importance as to demand a diſtinct conſideration. Theſe doctrines are, 1. *Natural Theology:* 2. *Moral Theology*, properly ſo called, and which the Greeks and Latins name alſo *Ethics:* 3. *General policy, or common prudence:* 4. *The policy of nations, or the ſcience of government:* 5. *The law of nature:* and, 6. *The law of nations.*

II. The more we conſider, examine, concenter, and refine our ideas, the more we are convinced that the principle of all human actions is uniform, and that it cannot but be uniform. This principle is at all times the *deſire of happineſs*, the deſire of bettering our condition; expreſſions that are here ſynonymous, and which we uſe the better to expreſs and elucidate one and the ſame thing. The idea of happineſs includes that of ſome *good* which we ought to purſue, and of an oppoſite *evil* that we ought to avoid. Every object, that can contribute to the perfection of a being, is good; and every object, that has the contrary effect, is an evil. Now, as the perfection and imperfection of man may be produced by various means, it follows that there are alſo many goods and many evils. From the efforts that man exerts to procure theſe goods, ariſes perſonal or ſelf-intereſt, which is the baſis and motive of all his actions.

III. As theſe goods are not only different in their natures, but alſo in their degrees of excellence and utility, it follows that there is a ſupreme or firſt good, and conſequently a firſt or ſupreme happineſs. The poſſeſſion of all theſe different goods forms felicity; and the true means of obtaining them are taught

taught us by morality. Moral philoſophy has no other rule than that of human reaſon; but moral theology borrows likewiſe the aſſiſtance of revelation, to lead us to eternal felicity.

IV Every human effort has an *end*, and every action is a *mean* to arrive at that end. Reaſon provides us with rules, which determine the juſtice and utility of the end, and explain to us the means of obtaining it. Theſe rules are called *laws*, and the inſtructions for the means *counſels*. The laws are either dictated by the Supreme Being in revelation, and are called by way of excellence *divine*; or by reaſon, or nature, and are named *natural*; or by legiſlatures to whom the right of their inſtitution is ceded by conventions, and are called *civil*, or *political*, or *arbitrary*. Man is furniſhed with counſel either from his own proper intelligence, or by the lights he receives from thoſe he conſults. *Chaſtiſement* is an evil or pain that is inflicted on tranſgreſſors of theſe laws.

V. Morality, therefore, in its divers doctrines, teaches man the means of obeying the laws, by fulfilling his duties toward God, himſelf, other creatures, and ſociety, from whence reſults his felicity: and to this purpoſe it conſiders the nature and ſituation of man, as well as the nature and effects of his actions, as his faculty of thinking, his liberty, his deſire of happineſs, his conſcience, &c. what are the neceſſary, accidental, or voluntary actions of man; thoſe which are called duties, and indifferent actions; thoſe that are named moral actions, good or bad, wiſe or fooliſh, decent or indecent; and ſo of the reſt.

VI. It is to elucidate all theſe objects that morality lights the torch of reaſon in our minds, and endeavours to guide us by thoſe rules which are the reſult of the reflections of the greateſt of men of all ages, and of reiterated experience, from the creation of the world to this day. From the diverſity of all theſe objects have aroſe the divers doctrines or ſciences, by whoſe union is formed morality in general, and which we have enumerated in the firſt

ſection.

ſection. In treating on the ſciences that belong to theology, we could not avoid including that of moral theology; and, as it would be both uſeleſs and diſagreeable to make repetitions of thoſe matters in this place, we muſt refer the reader, for that part, to the fifth chapter of this book, and ſhall now paſs to the analyſis of natural theology, moral philoſophy, policy or general prudence, the law of nature, the law of nations, and the ſcience of government; of all which we ſhall treat in as conciſe a manner as poſſible, following the precept of Horace,

Quidquid præcipies, eſto brevis.

CHAP. XLI.

NATURAL THEOLOGY.

I. WE have already ſaid, in the firſt ſection of the firſt chapter, that the object of theology is the knowledge of God, and of the manner in which he is to be worſhipped. We therefore name the doctrine, of which we here treat, Theology; becauſe it is employed in inquiries concerning the exiſtence of God, his eſſence, his eſſential qualities, his attributes and perfections, into the relations we have to that Supreme Being, and our duties and obligations that reſult therefrom, and conſequently the worſhip that we are to render him: and we add the epithet *natural*, to diſtinguiſh it from that theology which is founded on revelation; and becauſe, in the inquiries which we ſhall here make into theſe ſubjects, we employ only the natural lights of that right reaſon, with which it hath pleaſed the Almighty to endow the human mind.

II. Every thing in nature is compound, becauſe every thing is diſſoluble, and the moſt inviſible point may ſtill be divided. That which is compound muſt have parts of which it is compoſed: theſe parts could not join and unite themſelves with order,

order, regularity, harmony, and to a rational purpoſe. Neither could chance have united them, for the word chance is in itſelf void of all meaning: and if we ſhould annex ideas to it, chance according to thoſe ideas cannot operate with a deſign, and with order and regularity, with a conſtant and uniform plan; for in that caſe it would no longer be chance. And though we ſhould ſuppoſe that there are in nature ſimple particles, monades or atoms, ſmall incompoſite bodies, it is impoſſible that theſe particles ſhould have joined themſelves, and that they ſhould alſo have joined the parts of which other bodies are compoſed, in ſuch a manner as to concur to the ſupport of the general ſyſtem. There muſt therefore be an Omnipotent, Intelligent and Wiſe Being, who has united theſe particles, has ranged them, and has cauſed all the modifications of matter, or the parts of nature; who has given ſoul and life to all that is animated, and who maintains all things in the order his wiſdom has once preſcribed; and it is this Being which we comprehend in the idea that is expreſſed by the name of God. It matters little which principle we admit, provided we conceive of this firſt principle as of a Being that is Omnipotent, ſovereignly Wiſe, and in every poſſible ſenſe, Perfect. When we aſcend in idea, as by a chain, to the firſt claſs of all beings, we there conſtantly find a beginning, an origin, a point where they have been compoſed of different parts: it is in vain to attempt to mount further; we muſt for ever ſtop here; this unity, this point, cannot be paſſed; it is the inſtant of the creation. We may ſay, with M. Monteſquieu, "That they who have alledged *that a blind fatality has produced all the effects we ſee in the world*, have aſſerted a great abſurdity; for what can be more abſurd than to ſuppoſe that a blind fatality could produce intelligent beings!"

III. We here produce this kind of demonſtration merely to give our readers an idea, an example of the

the manner of reaſoning in natural theology. We do not propoſe to produce this as a new proof of the exiſtence of a God, and ſtill leſs as a proof to which there can be no reply, and againſt which there has not already been made many exceptions and oppoſitions. Perhaps it may be aſked, do they deſerve any regard? I think not. Be that however as it may, natural theology has many arguments, many demonſtrations, to prove the exiſtence of a Deity. The late M. Maupertuis has furniſhed one that is new, and drawn from the principle of leaſt action: this demonſtration appears to me very ſtrong, explicit and comprehenſive, but ought not however to exclude all others. The arguments drawn from final cauſes, from refined phyſics, from the organization of our bodies, &c. are alſo of very great validity. To this crowd of proofs will it be permitted to add one, which perhaps will not ſtrike and convince all men equally, but requires a metaphyſic mind to comprehend it? Whether we admit the ſyſtem of innate ideas, or ſuppoſe that ideas are formed in our minds from images which are conveyed thither by our exterior ſenſes, it is ſtill equally certain, that we can have no idea, no conception of a being that does not in any manner exiſt, and that never has exiſted. We can indeed repreſent to ourſelves all ſorts of chimeras; our imagination can form a monſter, with the head of an eagle, the body of a lion, the tail of a ſerpent and the feet of an oſtrich: but it is proper to obſerve, that theſe monſters, theſe chimeras, exiſt in our imagination only as compounds of beings that exiſt in nature, but that it is impoſſible to form an idea of a being that has no affinity with any that ever exiſted. It follows, therefore, either that the idea of God is innate, and then it is the immediate operation of the Creator; or that we have conceived this idea by means of the exterior ſenſes, by ſeeing or conſidering all thoſe objects that ſurround us, and by aſcending through a neceſſary ſeries of reaſoning to the origin of all things. So that, in either caſe,

this

this argument ſeems evidently to prove the exiſtence of that firſt Being which we name God.

IV. When this great truth of the exiſtence of the Deity is well eſtabliſhed, by following the light of true reaſon, we cannot repreſent that Being but as *an aſſemblage of all poſſible perfections.* To attempt to ſearch out his eſſence, is to make efforts equally vain and raſh; it is to attempt to fly without wings, or to know what paſſes in another planet; in a word, it is to attempt impoſſibilities. But God has given ſufficient power to the human mind to know, and to comprehend, by a ſeries of reaſoning, ſome of his eſſential qualities, his attributes and perfections. Thus natural theology teaches us the nature of the infinite Being, as well with regard to extent as duration of exiſtence; and that he is powerful, juſt, good, wiſe, &c. in a ſupreme degree. The natural rule is, that we ought to attribute to God every quality that can enter into the idea of the moſt conſummate perfection, and nothing that can anywiſe derogate from that moſt perfect idea. Neither philoſophers, nor divines. have had this rule conſtantly before their eyes; for by confining their ideas within too narrow a ſphere, they have ſometimes imagined that the virtues of God could not be formed but after the model of human virtues; and that a Being ſo infinitely perfect could have paſſions like man, ſuch as wrath, vengeance, ſorrow, &c. that is, be ſuſceptible of human imperfections: which occaſioned M. Fontenelle to ſay, in his dialogues of the dead, *that men were very deſirous that the Gods ſhould be equally fools with themſelves, but were not willing that the beaſts ſhould be equally wiſe.*

V. By comparing the idea of the goodneſs, the wiſdom, and omnipotence of God, with the idea of all the beings in nature as compoſed of parts, ſuch as man is in particular, and by conſidering that nothing leſs than a ſupreme being could have produced this compoſition, general and particular, that nothing leſs than a ſupreme Being can maintain the univerſe in conſtant order and harmony; by comparing

paring all these ideas, I say, reason leads us to suppose, and and even distinctly to perceive, a divine Creation and Providence.

VI. From the idea of God, as a Being supremely perfect, from his essential qualities, and from his particular quality of Creator and Conservator of the universe, arise the general relations between God and his creatures, and the particular relations between God and man, as a creature endowed with a high degree of intelligence. These relations enjoin duties to all creatures, and above all to men; and the performance of these duties form their primary virtues.

VII. The principal of these duties are, 1. A desire to know God, and to admire him in his infinite perfections: 2. A desire to know and fully to discover that natural law which he has engraved in the heart of man, by endowing him with reason: 3. A desire to serve him agreeably to the apparent will of his supreme wisdom; that is, to render him a rational adoration: 4. Gratitude for his benefits: 5. A reverence for his supreme Majesty: 6. A fervent inclination toward him: 7. A boundless dependance on him: 8. A desire to fulfil the designs of his wisdom in general, and that destination in particular, for which he seems to have formed us: and many other similar duties, which all necessarily flow from the incontestable principle of the existence of the Deity.

VIII. The proofs of the existence of a supreme Being; the inquiries into his qualities and perfections; the explication of the relations there are between God and man, and the duties of these that result therefrom, are the important objects of natural theology, and which it demonstrates at large, with all the evidence that it is possible for the human mind to comprehend. He who would study theology in general, ought by preference to apply himself to this theology: for it is the principle and foundation of all positive theology; and we may boldly say, that every religion which in a direct and

and demonſtrative manner oppoſes natural religion, is falſe and abſurd; as there never was, nor ever will be any man upon earth, with ſufficient authority to teach mankind dogmas that are manifeſtly repugnant to that right reaſon which proceeds from God.

CHAP. XLII.

ETHICS

OR,

MORAL PHILOSOPHY.

I. THE word *morality* appearing, to the moſt part of the philoſophers, as preſenting an idea of too complicate and too extenſive a nature, they have ſought another term whereby to expreſs *the determination of the will of man to virtue*, and they have thought that they found it in the word *ethica*, whoſe origin is Greek. Ethics may be juſtly called *the ſchool of virtue*, as it teaches man the rules by which he is to conduct himſelf in order to become virtuous, and, by a neceſſary conſequence, happy. It is divided into three parts. In the firſt it conſiders the *nature* of man, and principally his *will*: In the ſecond, it examines the moral *aptitude* and *inclination* that the will ought to acquire to determine it to virtue: And in the third, it inquires after the *means* that are the moſt proper to give the human will this aptitude and inclination.

II. The will is a natural faculty of the ſoul, by which it determines in favour of what appears to it either true or good, and rejects that which appears either falſe or bad. We deſignedly ſay that which *appears* true or falſe, good or bad, and not that which *is* ſo. For the underſtanding examines and preſents all

all objects to the will, and according as that preſents them, this accepts or rejects them: for the will has not abſolutely any power of examining and judging, its ſole quality is that of determining. Now, as the human judgment is ſometimes falſe, and ſometimes feeble or prejudiced, it happens too frequently, that it preſents objects the reverſe of what they really are, and conſequently the will is determined to that which is falſe or bad, without knowing it, and without intending it. A will, for example, that ſhall determine a man to kill his father, is manifeſtly badly determined, but it is the judgment that is the cauſe, which has preſented to the will the evil of committing that horrible action, leſs than the apparent good that ſhall reſult to him from it. It is the judgment that errs, and the will that embraces the error. For if the will could freely determine, either for good or bad, it muſt have the faculty of reaſoning, comparing, and examining; which is the buſineſs of the judgment. It is therefore to perplex ideas the moſt ſimple, and injudiciouſly to confound every thing, or not to underſtand the ſignification of the terms, to attribute this faculty to the will. It is for this reaſon an improper expreſſion of Chriſtian moraliſts, when they pretend that the will of man is inclined to evil from his infancy; for the contrary is manifeſtly true: but the word will is here combined with the operations of the underſtanding. All the ſpeculations, that moral philoſophers make in the ſame ſenſe on the will and its operations, are therefore equally frivolous. All, that is neceſſary, is to preſent to the underſtanding that which is good or bad, true or falſe, and the will at all times will follow the judgment as its guide: and with regard to the effect, the matter remains abſolutely the ſame, and the whole diſpute is in fact nothing more than trifling with words.

III. The object of the will is therefore the good or evil, and the act of the will is the approbation of the former, and the rejection of the latter: from

from the approbation ariſes *deſire*, and from the rejection *averſion*. There are deſires *natural* and *arbitrary*, good and bad. From the deſires ariſe *inclinations*, which are alſo either virtuous or vicious, according as they tend to good or evil. Morality here examines the nature and effects of ambition, avarice, and intemperance, and all the various inclinations that reſult from them, or that can be comprehended under theſe three claſſes. From the different degrees of inclinations they degenerate either into *propenſities* or *paſſions* They are alſo either *natural*, that, is, they reſult from the natural diſpoſition of the human frame, as love; or from the conſtitution, as vivacity; or they are habitual, and ariſe from uſe, as the inclination to muſic. Moral philoſophy, by extending its reſearches to their utmoſt limits, diſtinguiſhes alſo the primordial propenſities, which form what may be called the root from whence the others ſpring, and which only compoſe the branches. Thus, love is a primordial propenſity, of which friendſhip is a branch; and the taſte for a garden, or the affection for a bird or a dog are derived from it, and form a ſort of love for an inferior object. From all this reſult alſo the *movements of the mind*, and the *paſſions*; as hope, fear, pleaſure, ſorrow, joy, deſpair, chagrin, &c. Laſtly, They conſider the movements of the mind, and the exerciſe of the paſſions, when they are accompanied with an earneſt inclination to obtain the good that we deſire, or to avoid the evil that we fear; and it is here that morality explains the nature of wrath, courage, valour, emulation, compaſſion, envy, ſhame, curioſity, jealouſy, and many other like motions of the mind.

IV. With regard to the ſecond part of ethics, as we think we have already proved, in the ſecond ſection, that the will of man is at all times naturally inclined to virtue, we are to ſuppoſe, that when morality ſpeaks of the *aptitude* which the will ought to acquire to determine it to that which is good or true, it thereby means *the will combined with the*

judgment; and by which it is often ſeduced. According to this collective idea, and in no other ſenſe, the will of man may be ſaid to be in a ſtate of impurity, vice, weakneſs, &c. But we muſt here make an important obſervation: We have what are called the ſenſes, or more properly *one ſenſe*, which is that of feeling, and which naturaliſts have divided into five, according to the ſeat where it exerciſes its function, as the ſight, hearing, touch, taſte, and ſmell. All this is manifeſtly corporeal; and this ſenſe or feeling may be affected in a manner either agreeable or diſagreeable, according as the delicate extremities of the nerves are agitated. We have moreover corporeal wants, as thoſe of eating, drinking, ſleep, love and its conſequences; whoſe gratifications conſtantly give us pleaſure. Now, the will, which is always determined by what appears to it to be good, is conſequently naturally determined to that which affords pleaſure, and regards pleaſure as a good: from whence ariſes the natural propenſity of the will to ſatisfy the wants of the body, and that which can give agreeable impreſſions to the ſenſes; and it is here that right reaſon ought to convince the will that the exceſs of pleaſures is as prejudicial to our being, as the right uſe of them is beneficial, in order to prevent the will from inceſſantly conſenting to pleaſure. It is perhaps this propenſity of the will to pleaſure, that is, though very improperly, called a propenſity to vice and imperfection an evil propenſity; but which is, in fact, quite the reverſe.

V. From the deſire of happineſs, from the propenſity to pleaſe the ſenſes, and from the natural inclination to ſatisfy agreeably the wants of the body, ariſe therefore the paſſions, and in the firſt place *ſelf-love*, which is either rational or irrational, according to the limits with which it is indulged. From ſelf-love proceed ambition, avarice and intemperance. From the propenſity to theſe paſſions ariſe the *vices*, which are nothing but a continued inclination to actions that are unjuſt or irrational.

tional. There are reckoned three principal vices from whence all others flow; theſe are impiety toward God, intemperance toward ourſelves, and injuſtice toward our neighbour. From thence are derived, 1. Atheiſm, idolatry, ſuperſtition and hypocriſy: 2. Inebriety, gluttony, luxury, debauchery, laſciviouſneſs, ſloth, diſſipation, avarice, indiſcretion, impatience: 3. Infidelity, incivility, obduracy, implacability, malice, vengeance, cruelty, and ingratitude, with all their unhappy relatives.

VI. The principal concern therefore, in this ſecond part of ethics is, to ſhow in what manner the will, guided by the judgment, may be enabled to avoid theſe vices, and to acquire an inclination for their oppoſite virtues: and it is here that morality proves that man cannot attain this end, but *by living according to the rules of ſound reaſon.*

VII. Reaſon preſcribes to man two rules, one of which takes its ſource from the *laws*, and the other from *prudence:* from whence conſequently reſult a *moral virtue* and a *political virtue.* Moral virtue conſiſts in a deſire and aptitude to conform our actions to the rules of the natural law. There are reckoned three principal virtues; which are piety, temperance, and juſtice: from whence ariſe, 1. The love of God, our duty towards him, and our confidence in him: 2. Sobriety, chaſtity, diligence, œconomy, urbanity, patience, courage, magnanimity, &c. 3. Equity, meekneſs, the love of peace and concord, ſincerity, candor, humility, fidelity, veracity, beneficence, charity, generoſity, humanity, placability, gratitude, and all thoſe other virtues which form the genealogy of juſtice; the mere contemplation of which is capable of inſpiring a moſt pleaſing ſenſation in a virtuous mind.

VIII. From the moral virtues are diſtinguiſhed the *political virtues*, which ariſe from a happy diſpoſition in the mind to direct its actions according to the rules of prudence, in order to obtain juſt and rational benefits, and to avoid that which is prejudicial. With regard to political virtues, *prudence*

is the only ſource from whence they are all derived. Although from the incidents and occaſions in life, in which prudence may be exerciſed, the number and names of the political virtues are infinitely multiplied, yet have philoſophers endeavoured to reduce them into a ſyſtem, and to form of them a particular diſcipline, under the name of common prudence or policy *(ars bene vivendi,)* of which we ſhall have occaſion to ſpeak hereafter.

IX. The third part of ethics (ſee ſect. I) conſiders more particularly the *means*, by which this happy diſpoſition to virtue may be excited in the mind. The philoſopher is not a creator, he cannot remake the mind, or change the nature of a corrupt judgment: it is his duty, however, to hold up the torch of reaſon and of truth to every underſtanding, to every mind whatever. He propoſes, therefore, to the will of man, conducted by judgment, *two ſorts of means* whereby to correct and improve it; which are, the *univerſal* means, and the *particular* means. The former endeavour to inſpire mankind with a general inclination to a rational life; the latter tend to correct the particular deſires, inclinations, propenſities and paſſions. The firſt is, moreover, divided into means that are either *principal* or *acceſſory*.

X. The principal univerſal means conſiſt in deſcribing, in a true and ingenuous manner, the good and evil of each action, and their conſequences; ſometimes by abſtract reaſonings, ſometimes by rules, and ſometimes by examples. The acceſſory means conſiſt in diverting man from his ruling paſſion, by another paſſion that is leſs dangerous; or in gradually withdrawing him from a vice, or by depriving him of the opportunity of indulging his paſſion, &c. It is, in general, an excellent mean of reforming a rational man from a vicious paſſion, to convince him that every vice is attended by its proper puniſhment; and that to deliver ourſelves up to our paſſions, is totally to abandon that happineſs we ſo much deſire (ſee ſect. I.); and that, on the

the other hand, each oppoſite virtue carries its own reward always with it. Impiety, for example, is conſtantly attended by anxiety, dread, and remorſe; as piety is by tranquillity of mind, hope, confidence, and conſolation. Debauchery draws after it a thouſand evils; and temperance, ſobriety, and moderation, chaſe away thoſe evils, and preſerve that health of body and mind wherein conſiſts true pleaſure. Injuſtice is the ſource of every anxiety, remorſe, and infelicity; whereas juſtice ſpreads a calm over the mind of man, and procures him the eſteem and confidence of his fellow citizens, as well as contentment, frequently proſperity, and always true happineſs. Morality in this manner runs through all the virtues and all the vices; and applies the ſame arguments to vanity, to pride, and to a laudable ambition; to debauchery and to a rational pleaſure; to avarice and to a wiſe œconomy; in a word, all thoſe virtues and vices which are the conſequences of our deſires, our inclinations, propenſities and paſſions. For whenever morality attempts to deſtroy, to root out of the heart of man any vice, it endeavours, at the ſame time, there to implant and to cultivate its oppoſite virtue. To attain this end, is doubtleſs the moſt glorious effort of the human mind; and proves, without a demonſtration, the excellency of moral philoſophy.

XI. It is our buſineſs to preſent to our readers the ſciences and doctrines in the manner in which they are treated by thoſe learned men who make them their profeſſion; and we think that we have ſufficiently acquitted ourſelves of our duty with regard to moral philoſophy. But we are by no means anſwerable for the truth of the principles on which theſe ſciences are founded; and conſequently we do not ſet ourſelves up as defenders of him who makes the correction or rectification of the will the object of morality. There are in the world philoſophical reaſoners who ſay, *What is this will? Has it been ſufficiently proved that we have a will? That the will is a diſtinct faculty of our mind?* We be-

lieve nothing of the matter. The determination of the mind, for the true or falſe, and the determination of all our actions, is a neceſſary and abſolute conſequence of the judgment and its operations; nothing but the mere reſult of that, without any other faculty of the mind participating or concurring to promote it. Our judgment ſees and examines all things, and decides for that which appears to it good or bad, true or falſe. If it judge wrong, the fault is in itſelf; it is becauſe the judging faculty itſelf is corrupt, or that it cannot ſufficiently diſtinguiſh. It is, therefore, the judgment itſelf that we muſt correct to produce actions that are true, rational and juſt, that is, virtuous actions: and this it does by means of a ſound logic. To deſire to correct the will, is to deſire to correct that which does not exiſt; and to which, if it did exiſt, it would be neceſſary to attribute a particular intelligence, independent of the judgment; which is a mere chimera.

XII. Theſe philoſophers proceed to ſay, It is true that we have ſenſations or natural feelings, which are agreeable or diſagreeable, and that we are naturally determined in favour of that which excites in us agreeable ſenſations; but there is no power, doctrine, ſcience, or argument in the world, which can change theſe natural ſenſations, and make us find that agreeable or diſagreeable which is not ſo in fact; and that can correct or alter the natural ſenſation, or the eternal and immutable laws of nature in this matter.

XIII. This hypotheſis deſtroys all the diſputes about liberty; about the queſtion, if God can be the author of evil, &c For if we have no will, it is abſurd to aſk if our will be free or not. We ought only to aſk if our judgment be true or falſe. Evil is as neceſſary in nature as good, ſeeing that it is abſolutely neceſſary that there ſhould be an object of determination for the judgment, as well as for every other thing poſſible; and that an object, which is

is true, juſt, good, &c. cannot be ſo but by the oppoſition of that which is falſe, unjuſt, bad, &c.

XIV. When God granted to Solomon the permiſſion to aſk a gift, that king, ſo ſagacious and ſo well inſtructed, did not aſk for the correction of his will, but he aſked *wiſdom*, that is, an enlightened and juſt judgment, as the ſource of every good, and every virtue. The ſame thing is to be underſtood when men, but little acquainted with philoſophy, ſpeak of the *heart*, of a good or bad, a virtuous or corrupted heart, &c. which are poetical expreſſions that frequently lead men far wide of the truth. What is to be underſtood thereby? Is it that maſs of fleſh which anatomiſts calls the heart? Or is it a moral faculty within us, which is diſtinct from the mind, and different from the faculty of thinking and reaſoning?

XV. God forbid, however, that we ſhould decide in this affair: the matter is too delicate, and deſerves the repeated conſideration of the moſt profound philoſophers. For if the laſt of theſe hypotheſes be true, morality, *which teaches the correction of the will*, will become a chimera, a creature of the imagination; and, to ſpeak in the language of mathematicians = o.

CHAP. XLIII.

General Policy, or Common Prudence.

I. IN the eighth ſection of the preceding chapter, we ſpoke of the political virtues, and promiſed to explain that matter with more preciſion; it is proper that we now acquit ourſelves of that promiſe, not only with a view to complete the plan of this work, but becauſe this part of practical philoſophy is that which moſt directly tends to the emolument of mankind. All the different ſorts

of doctrines, and eſpecially thoſe of philoſophy, are, in general, nothing more than reaſon reduced into a ſyſtem; a ſummary of what common ſenſe, and what men of the greateſt genius teach from experience and reflection on any ſubject, for the uſe of thoſe of moderate capacities, or for all ſuch as want talents or opportunity to reflect, and to draw from their own fund of reaſon all the neceſſary lights relative to ſuch ſubjects. It has therefore been found expedient to reduce general policy alſo into a particular ſcience; and it is uſeful to mankind to make it their ſerious ſtudy; as their underſtanding will thereby always become more enlightened. They ought not, however, to put too great confidence in this ſtudy: reaſon is the guide that they ſhould conſtantly follow in the career of life. Unhappy is he, who, to guide himſelf wiſely and juſtly through the world, is obliged to have inceſſant recourſe to the ſyſtems of natural law, of morality, and politics, and to recollect what Cicero, Grotius, Puffendorff, Thomaſius, Wolff, and others, have ſaid, in ſuch or ſuch a chapter, on the divers incidents that occur in the courſe of his life.

II. Happineſs is the goal to which all human mortals preſs, and policy, in general, is *the art of obtaining our end.* In order to obtain happineſs, man ſhould conſtantly direct his actions in ſuch manner that they may be *juſt*, *decent*, and *uſeful.* Natural law, and morality or *ethics*, teach us what is juſt and decent; and policy furniſhes us with rules for that which is uſeful. As the objects, or ends, that men propoſe to themſelves in the career of life, are very different, and as the different ſituations in which they may be found are infinitely various, it is impoſſible to foreſee all caſes, and to furniſh particular rules. Policy, therefore, confines its enquiries to the principal ſituations in life of which man is ſuſceptible, and propoſes general principles of which he make a uſeful application to particular caſes for the juſt regulation of his conduct.

duct. Cicero, in his treatiſe of duties *(de Officiis)*, has furniſhed a great number of admirable precepts. He ſeems to have made a very true and accurate diſtinction between the juſt, the decent, and the uſeful, by inceſſantly recurring to what he calls *honeſtum, decorum, et utile:* but he has not treated this matter in a manner ſufficiently ſyſtematic: he, like all the ancients, is ſometimes ſublime, ſometimes low; like flaſhes of lightning that iſſue from a dark cloud.

III. From what has been ſaid the reader plainly ſees, that the general policy is, in fact, the ſame as common prudence in the courſe of life: the art of conducting all our actions in ſuch a manner as to make them truly uſeful; and we may add, ſo as to merit the approbation of the wiſe and good. This is a moſt extenſive field, of which it is poſſible to trace the principal diviſions, but not the limits.

IV. There are four objects to be conſidered in every action: 1. The *end* that is propoſed: 2. The *faculties* or natural diſpoſition of every man to obtain that end: 3. The *means* by which it is to be obtained: 4. The *obſtacles*, whether natural or incidental, that may occur, and the method by which we are to endeavour to remove them. The treatiſes on policy explain theſe objects, and preſcribe the general rules that are to be obſerved for theſe purpoſes: and, as in moſt of the actions of life we have need of the aſſiſtance of others to obtain our ends, it points out to us the means of knowing mankind, and if they are diſpoſed to promote our enterpriſes: for which purpoſe it teaches us to diſcover their views, their talents, characters, humours, inclinations or propenſities, their abilities, their virtues, and their vices: in a word, it enables us to turn all their good, and even their bad qualities and imperfections, to our own advantage; and this is not one of the leaſt important parts of general policy.

V. After theſe general obſervations, policy examines what are the principal ſituations in life in

which man may be placed, and in which he will have occaſion to employ a particular prudence and policy. Thus every one paſſes from the ſtate of infancy to that of youth, where his reaſon begins to expand itſelf, and he becomes influenced in his actions by his own ideas: and in this ſtate it is, that his inclination, or natural diſpoſition, ſhould direct him in the choice of his future ſtate or profeſſion in life; and then it is that he ſhould lay the foundation of his fitneſs for that ſtate; that he ſhould make the neceſſary preparatory ſtudies, or put himſelf under the tuition of a proper maſter. Policy here furniſhes him with ſalutary counſels relative to the manner in which he is to conduct himſelf in the ſchools, academies or univerſities, and in his travels; in ſociety in general; with his ſuperiors and inferiors, and with perſons of both ſexes; in the ordinary intercourſe of life, and in the ſtate, the army, and the church; among men of commerce, letters, artiſts, &c. as a magiſtrate or a citizen, as a father or a member of a family, as a maſter or a ſervant, and as married or celibate; as a miniſter employed by a government; or as the ſubject of a government; and ſo of the reſt. In a word, there is no end to general policy when we enter into the detail of the various ſtations of life; for each of which it preſcribes ſuch maxims as are founded in wiſdom.

VI. Policy, moreover, does not only conſider man as having not yet fixed his ſtation in life, and as at full liberty to act in what manner he thinks proper, but alſo as in a ſtate to which he may not have been determined by prudence. It teaches him the method of repairing his faults and his injuries, and ſo to manage them that he may receive the leaſt prejudice poſſible from them, and even ſometimes to turn them to great advantage: in a word, to conduct himſelf prudently, as well in proſperity as adverſity. It inſtructs him, moreover, not only in the general and particular means of attaining each end that he propoſes, but alſo how to obviate ſuch difficulties

difficulties as may impede his ſucceſs. Laſtly, it teaches him wherein conſiſts the *ridiculous*; and ſhows him how eaſy it is for man to become ſo, if he be not conſtantly on his guard againſt thoſe rocks which it points out to him; it makes him ſenſible of his danger, and of the noxious qualities that frequently reſult from ridicule, and which are ſometimes more prejudicial than even thoſe of vice itſelf.

VII. *Counſel* is alſo a very important part of general policy. We do not here mean that prudent advice which a man gives himſelf for his conduct in life, but that which he gives to his friend, his fellow citizen, to every man who may conſult him, and whom he ought to regard as his brother. It furniſhes him with maxims relative to the candor and ſincerity he ought to obſerve, and the prudence and circumſpection he ſhould employ with regard to the ſituation of the perſon who aſks his counſel, and to the circumſtances that attend embarraſſing caſes, and to every other object that relates to this important buſineſs. In a word, general policy is a rational theory, a complete courſe of ſcience for the right conduct of life; that teaches us to guide our bark through a ſea that is conſtantly agitated, and frequently tempeſtuous; that directs us ſo to paſs through life, that we may live in this world with ſecurity and integrity, religiouſly and agreeably, and in expectation of that true felicity which the divine mercy has prepared for us in eternity.

CHAP.

CHAP. XLIV.

The Policy of Nations.

I. AS we ſome years ſince publiſhed our *Political Inſtitutes*, in which we have faithfully included all that we know of this matter, we might diſpenſe with ourſelves from here making a new detail on this ſubject, and refer our readers to that work; but as it has ſwelled under our pen to two quarto volumes, and as we have there treated all theſe matters in their full extent, whereas we here propoſe to trace the outlines of ſcience only, in order merely to ſhow of what they conſiſt; and as it is not our deſign to engage our readers in the particular ſtudy of national politics, nor in ſo conſiderable an expence and application; and laſtly, as it would be to leave this work incomplete, totally to reſcind ſo important a ſcience, we rather ſubmit to the diſagreeable office of having recourſe to our own work, and of making an extract from it, in order to inform ſuch as are deſirous of having ſome acquaintance with the elements of ſcience, with what relates to the general principles of national policy.

II. We have ſaid in the preceding chapter that policy in general is the art of obtaining our end: it follows, therefore, that national policy is *that ſcience which furniſhes rules to thoſe who govern nations, for the attainment of the various ends that they ought naturally to propoſe*; or, in other words, it is the *ſcience of government, the art of ruling*, &c.

III. The ends of every ſtate, nation or body politic, are naturally, 1. Its preſervation or duration: and 2. The happineſs of all thoſe who are its members. The greateſt perfection in the conſtitution of a ſtate, doubtleſs, conſiſts in that which can procure its long duration; and, as long as that duration continues, can procure to its members all the advantages that they are capable of enjoying, and can defend them againſt all the evils to which they are liable.

IV. To

IV. To obtain theſe two ends, a ſtate ſhould propoſe to itſelf five fundamental articles, which are,

1. That it ſhould poliſh the people whom it is to govern.

2. That it ſhould introduce a proper order in the ſtate, encourage ſociety, and enforce the obſervance of the laws.

3. That it ſhould eſtabliſh a good and ſtrict police in the ſtate.

4. That it ſhould make the nation flouriſh, and render it opulent.

5. That it ſhould render the ſtate formidable in itſelf, and reſpectable among its neighbours.

From theſe five ſubjects flow, as from ſo many fruitful ſources, all the particular rules that politics teach, and from the union of which is formed the ſcience of government.

V. No nation or body of barbarians, how numerous ſoever they may have been, were ever happy or formidable, for any long time. All the ſavage nations, without manners, without police and civility, have been, without exception, conquered by the civilized nations. If the Tartars are not yet entirely ſubjected, it is becauſe they have not been thought worth the conquering, any more than they are, at preſent, by the Turks and Ruſſians. Ferocity, which is a neceſſary conſequence of barbariſm, can never produce a real happineſs, unleſs it be in the brains of ſome viſionaries, who aſſuming the name of philoſophers, imagine there is a great merit in producing paradoxes, and put themſelves to a ridiculous torture to maintain them.

VI. To poliſh a nation, we ſhould begin by taking the greateſt care in the education of youth, by the means of public ſchools, academies and univerſities, and by inſtituting all ſorts of eſtabliſhments that are inſtructive, and capable of improving the mind of youth, and of giving them talents, not only for the ſciences and liberal arts, but

but for ſuch as are uſeful, as trades, manufactures, &c. In the next place, *urbanity* ſhould be encouraged in the ſtate, the manners ſhould be refined and ſoftened, the printing art ſhould be properly ſupported, travelling ſhould be permitted and encouraged, a rational luxury ſhould be introduced, a brilliant court ſhould be maintained, decent theatrical exhibitions ſhould be promoted, public entertainments ſhould be given, agreeable walks ſhould be provided, the abuſe of ſtrong liquors ſhould be ſuppreſſed, debauchery, ferocity and brutality ſhould be utterly baniſhed.

VII. A perpetual harmony is to be maintained among all the parts, all the branches of a body politic or nation; no one part ſhould deſtroy or impede the operations of another: and this is what is called *good order*. There is a general ſociety conſiſting of all mankind, on whom are enjoined the duties of *humanity*: but they, who make part of the ſame nation, are bound by a much ſtricter connexion, from whence reſult thoſe relations which are comprehended under the name of *ſociety*, and the duties that ariſe from the offices of ſociety. It is this good order, theſe relations of ſociety, that every ſovereign ought to maintain in his ſtate. It is here that politics examines the difference of conditions, and the utility that may be drawn from thence. It is here that it eſtabliſhes, as a firſt principle, that the proſperity of a ſtate ariſes from its population; that is, from the multitude of members in every claſs or condition of its inhabitants. It furniſhes maxims for the encouragement of this population, and the conſervation of its members. It treats of orphan-houſes, hoſpitals, charitable inſtitutions, colonies, ſenates of health and phyſic, precautions againſt epidemic diſorders, &c. Laſtly, It conſiders religion, incredulity, ſuperſtition, toleration, and non-toleration, the improvement of manners, and uſeful eſtabliſhments; the communications between the capital and the towns and provinces; the poſts, the ſtages, the inland navigation,

navigation, the public roads; and to all these it adds the different departments that are to be established in a state, for the regulation of its several branches; and from the union of which is formed its government.

VIII. Politics, in the next place, consider the important article of the laws and legislation: and as the prosperity of a state depends entirely on the goodness of its laws, it points out the ways of making such as are just and useful. It treats moreover, of the legislative and coercive powers in matters spiritual, civil, military, public, and private. It shows the division of the laws; and makes a digression on the insignificant and *prejudicial* nature of fiefs and feodal laws: it gives rules for the construction and style of laws, and treats of jurisprudence, the tribunals, judges, ministers of justice, sentences, penalties and chastisements.

IX. The *police* of cities, and of a country, is an object of very great extent and importance in a state. Politics prescribe the rules that relate to their *security*, *convenience*, and *elegance*; and which the inhabitants have a right to expect for the preservation of their lives and their health, of their honour, and their property; and from whence arise their tranquillity, and the means of executing their functions, their trades and offices in society, without trouble or obstacle. This subject is of an immense detail; and they, who would instruct themselves in it more particularly, may consult the seventh, eighth, and ninth chapters of the first part of our Institutes.

X. Policy next turns its views to the *opulence* of the state and its members: it demonstrates the necessity of it, and points out the most efficacious means of attaining it; explaining, at the same time, wherein true opulence or the riches of a state consist: and here it treats of the precious metals, and of money, and of the representatives of money or bills of exchange, bonds, &c. of public funds and banks: of agriculture, and all that depends

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on it: of the natural productions of a country in the three kingdoms of nature, and of the manner of drawing advantages from them: of induſtry, or arts and manufactures: of commerce in general, and particularly of mercantile navigation, &c. Laſtly, it examines in what manner the general opulence of the members of a ſtate may be rendered uſeful to the ſtate itſelf, by the mean of contributions or ſubſidies that the inhabitants may furniſh for the maintenance of government: and here it enquires into the buſineſs and the departments of the finances, and the manner in which they ought to be regulated; what ought to be their fundamental principles; the contributions real or perſonal; the taxes natural and invariable or arbitrary; the duties on proviſions and merchandiſe; and a thouſand other like ſubjects which we have diſtinctly explained in the tenth, eleventh, twelfth, thirteenth, fourteenth, and fifteenth chapters of our Inſtitutes.

XI. In order to render a ſtate formidable, beſides its pecuniary reſources, it muſt have real forces, that is, an *army* and *marine*. It is part of the buſineſs of politics to determine the force of an army and navy, in proportion to the grandeur and opulence of a ſtate; and to preſcribe rules for the formation of troops, and their maintenance, as well as for a naval force; for the arrangement, uniform, and diſcipline of the ſeveral corps; for the conſtruction of veſſels; for the military and naval hoſpitals; and for numberleſs other objects relative to this matter, as may be ſeen in the ſixteenth chapter of the Inſtitutes.

XII. Hitherto politics has conſidered the ſtate only as it concerns itſelf; that is, its peculiar conſtitution. In the ſecond part, it regards the ſtate from a different point of view; that is, as occupying a certain part of the earth, as making part of the general ſociety of mankind, and having connexions with other nations either proximate or remote, friends or enemies. From this point of view, therefore,

therefore, it begins by preſcribing the neceſſary rules, 1. For the political conduct of ſovereigns in general: 2. For the formation of councils: 3. For the choice of miniſters: 4. For the arrangement of the departments of foreign affairs, &c. It then examines, 5. The power of different ſtates relative to each other: 6. The particular ſyſtem of each ſtate: 7. The reciprocal engagements of ſovereigns in general: 8. Particular treaties and alliances, and their utility or inutility: 9. Peace and war: 10. Negotiations in general: 11. Public miniſters: 12. Inſtructions, credential letters, authentic vouchers, and other writings neceſſary to negociations: 13. What relates to the attendants on a public miniſter, and to his houſe: 14. To the political conduct of a public miniſter: 15. To a congreſs: 16. To ceremonials; and many like matters which relate to the exterior ſtate of the body politic.

XIII. We have uſed our beſt endeavours to reduce the chaos of theſe important matters, to eſtabliſh certain principles, and to give rules equally juſt and uſeful, relative to theſe different objects, in the thirteenth chapter of the ſecond volume of our Inſtitutes. We have there added the principles of political arithmetic, which relate to population, its encreaſe and diminution; to the ſubſidies or contributions of the ſubject; to moſt of the operations of the finances; to the public funds, lotteries, annuities, tontins or annuities with ſurvivorſhip, and many objects of the ſame nature, which are either neceſſary or uſeful, or curious and agreeable, and always inſtructive. Laſtly, we have devoted the fifteenth and laſt chapter to the inveſtigation of the political cauſes of the decline and deſtruction of ſtates: and we have had the ſatisfaction to ſee that our efforts have not only merited the public approbation, but that the maxims which we have drawn from ſound reaſon, and ſupported by experience, have been adopted and followed, either in whole or in part, by many wiſe governments: that politics, thus reduced into ſyſtem, make

make every day a happy progreſs in the more civilized parts of Europe; and that alſo ſome able and celebrated profeſſors have made it the ſubject of their public lectures: All this muſt be no ſmall encouragement to thoſe who would make it their ſtudy.

XIV Let us finiſh this ſubject with a few remarks. If a miniſter, who is placed at the helm of government, is not endowed with a ſound diſcernment and a firm mind, he will ſink under that oppoſition which is conſtantly made to a political conduct. Every old woman encroaches on the province of the phyſician, and pretends to cure diſorders by ſimples or ſpecific remedies: every diſcontented old man rails at the government, and pretends to reform the ſtate: a thouſand adepts, political mountebanks, offer themſelves every day, who would perſuade the world that they are poſſeſſed of ſome wonderful ſecrets relative to the finances, commerce, the police, &c. and they are ſometimes hearkened to, and deſtroy the beſt concerted ſchemes of an able miniſter, who has planned a ſagacious ſyſtem of adminiſtration, in which every branch of government has its general end, like the radii of a circle that all meet in one common center. Sometimes a miniſter is even diſmiſſed from his employments in the midſt of his career, at the very moment that he was going to ſee all his deſigns accompliſhed; inſtead of which, he ſees them all deſtroyed by his ſucceſſor, that he may form a new plan. This is one of the greateſt evils that can befal a ſtate. Sometimes the inhabitants of a country condemn the government becauſe they are placed too near the ſprings of action; like thoſe ſpectators who are placed behind the ſcenes at an opera, who diſcover every little fault in the machinery, and in the dreſs or conduct of the actors, and are continually criticiſing and condemning; while thoſe who are placed at a juſt diſtance, and ſee the effect of the whole together, find the performance highly excellent, and teſtify their approbation by loud applauſe.

CHAP.

CHAP. XLV

The Law of Nature.

I. WHENEVER we reflect on *man* and his *duty*, we ſhould conſider him from two different points of view;

1. *As ſolitary, and in a ſtate of pure nature.*
2. *As living in ſociety with his fellow beings.*

The firſt is a ſpeculative and ideal ſtate, the ſecond a practical and real ſtate: the one a ſtate that is poſſible only, the other that which actually exiſts. All the celebrated authors who have wrote on the law of nature, which reſults from theſe two ſtates, have given themſelves inconceivable trouble to diſcover the origin of ſocieties: and, at the ſame time, have had that conſtantly before them which they have gone ſo far to ſeek. It is the ſtate of man in ſociety that is his natural ſtate; and if there are to be found, any where on the earth, men that live in perfect ſolitude, it is on the origin of that ſtate that they ſhould employ their learned reſearches. And for theſe reaſons:

II. Love, the firſt principle of the univerſe, and of all that is in the univerſe, inſpires all beings with a natural inclination to unite. The birds that hover in the air, the animals that inhabit the earth, and the fiſh that poſſeſs the waters, all live in a kind of ſociety, that has laws which are proportionate to their nature and their wants. Beaſts, birds, and the inhabitants of the floods, aſſemble at the approach of danger; the bees aſſiſt each other in their exigencies; and a cock, in a farmer's yard, will defend the hen of his fellow cock: It is only neceſſary to obſerve the face of nature, in order to be convinced that the idea of *property* takes place among all animals; and this property is the neceſſary and abſolute conſequence of ſelf-love, of the

the deſire of preſervation, and of happineſs, which is natural to every being that exiſts. To abridge this argument, let us return to man, and conſider him as in a ſtate of perfect ſolitude. Will not the firſt queſtion be, How came he there? Is not his very exiſtence a proof of a previous ſociety? But let us conſider him again as perfectly unconnected, if it be poſſible, and without any regard to his origin: Will he not conſtantly feel a natural impulſe to propagate his ſpecies? And will he not inceſſantly ſeek a companion to ſatisfy that deſire? And if he find one, is not this the commencement of ſociety?

III. But let us go ſtill further. From this firſt ſociety a third human being is produced. In what ſtate does he come into the world? Without the leaſt power to provide for his wants: he would periſh at the moment of his birth, if nature had not given his parents a love toward him, an inclination to nouriſh and ſupport him. The author of nature has given milk to his mother, for his ſuſtenance, and force to the father, to protect the mother and the child, and to procure them ſubſiſtence. Are not theſe manifeſt proofs of the natural and abſolute neceſſity of ſociety? But from the ſame father and mother are born ſeveral children; and theſe form a family. Theſe children render to their parents, in old age, what they have received from them in their infancy; they defend them from injuries, and ſupply them with neceſſaries, when their ſtrength has forſaken them. Is this innate love, this attachment, or, if you pleaſe, inſtinct, which men and brutes have for thoſe beings to which they have given exiſtence, a matter of no conſideration? Do not the ſmalleſt of the feathered tribe, who purſue through the air thoſe birds of prey that have robbed them of their young, and endeavour at the riſk of their own lives, by inceſſant efforts and lamentations to regain them; and theſe very birds who reſt unconcerned, or even hide themſelves in their neſts, when the bird of prey paſſes by with other young ones of the ſame

tribe

tribe in his talons (an object that the country daily affords) do not theſe, I ſay, prove that property is a natural and inſeparable attribute of the exiſtence of every being? Does not the mother in this inſtance cry out, *it is my child?* And is man formed differently? Is he born without love and without intereſt? Has nature no concern in the formation of ſocieties? You ridiculous inventers of paradoxes! will you never hearken to her voice? If a family is in want of neceſſary ſuſtenance, or is threatened with ſome danger, in either caſe it ſeeks the aid of ſome neighbouring family; theſe families become by theſe means united: love performs the reſt: by love a great number of families are united. Here we ſee the origin of all ſociety. But ſocieties muſt have laws, that is, relations which ariſe from the nature of things. The idea of a ſociety naturally implies, therefore, that of property and of laws; for to imagine a ſociety without property and natural laws, is to conceive a chimera, an impoſſibility. And from hence ariſes the origin of the laws of nature.

IV. We may therefore ſay, that there are, 1. Natural laws for a man who lives in perfect ſolitude; but theſe laws are only ideal and ſpeculative; of no uſe, as they do not admit of any application: 2. Natural laws for man, as living according to his natural ſtate in ſociety; and theſe are the natural laws which are real, effective, and of daily application. It is proper, however, to know the ſpeculative laws, as well as the real laws, ſeeing that the principles of the latter are frequently founded on the former. The aſſemblage of all theſe laws, and the duties that reſult from them, form what is called, by the general title, the law of nature, and which we ſhall here explain in as conciſe a manner as poſſible.

V. We are obliged to repeat, perhaps too often, that *love* is the principle of all things, and conſequently of the law of nature. *Behold man and his*

his law, ſays the poet, *it is enough*; *and God himſelf has vouchſafed to teach us all our duty toward him, by ſaying Love.* Now, as love conſiſts not only in a lively joy, excited by the contemplation of the perfections of an object, but alſo in an earneſt deſire to become poſſeſſed of that object, or at leaſt to render it propitious to us, it follows, that all love ſuppoſes *duties* to be performed by him that loves. Therefore, as man ought not, or rather cannot refrain from the love of God, of himſelf, and of his fellow creatures, it is manifeſt that he has therefore duties to perform,

1. Toward God;
2. Toward himſelf;
3. Toward other men;

} As living in the ſtate of nature:

4. Toward God;
5. Toward himſelf;
6. Toward other men;

} As living in ſociety.

And theſe are duties that the ſcience of the law of nature explains to us in their natural order, after it has made the previous enquiries concerning human actions in general, and the human faculties that are to produce them; as the underſtanding, and the conſcience; doubt, error vincible and invincible, ignorance, the nature of good and evil; the diſpoſition of the organs, and the paſſions; actions voluntary and involuntary; the imputation of actions, that is, to what degree the agent may be lawfully conſidered as the author of his actions, and to what degree he is reſponſible for them; concerning omiſſion, the nature of laws, juſtice, equity, puniſhments in general; the nature, degrees, and proportions of particular puniſhments; and laſtly, concerning the law of nature and its particular properties: reflections that all tend to determine, not only the true meaning of expreſſions, and to avoid all poſſible ambiguity, but alſo to elucidate the objects themſelves, and by that mean

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to prepare the mind to receive adequate and juſt ideas concerning the duties impoſed by the law of nature.

VI. No man is born into this world in a ſtate of abſolute freedom. Every law contains duties, and every duty takes away a part of our natural liberty: the law of nature, therefore, determines how much of it remains to man; 1. In the ſtate of pure nature; and, 2. In the ſtate in which he lives in ſociety; from whence new natural duties are enjoined him. We muſt not, however, confound here *the duties which reſult from the law of nature* with *the moral duties*; and to render this diſtinction the more manifeſt, it is neceſſary to remark, that all the duties of mankind may be reduced to *three claſſes*. Thoſe of the firſt, whoſe obſervance is of an *abſolute obligation*, ſuch as, not to murder our brethren, to pay or reſtore what we have borrowed, &c. ariſe from the law of nature, and may be enforced by public juſtice. Thoſe of the ſecond, whoſe obſervance is of a *mixt obligation*, are ſuch, as to be diligent in procuring neceſſaries for our family, to be grateful for benefits received, to be charitable, temperate, &c. Theſe are derived from morality, and a man living in ſociety may be conſtrained to the obſervance of them, but not with the ſame rigour. Thoſe of the third, whoſe *obligation is imperfect and conditional*, are ſuch as to be generous, liberal, to live with a dignity that is agreeable to our circumſtances: to be indulgent to our debtors, &c. Theſe are derived either from a leſs rigorous morality, or from general policy, received opinions, the particular cuſtoms of a people, &c. but to theſe, no man can be reſtricted by public authority. It is highly neceſſary properly to remark, and well to remember, this eſſential diſtinction in the ſtudy of the ſciences that compoſe practical philoſophy, that we may not confound thoſe *abſolute duties*, which ariſe from the law of nature, with the *neceſſary duties*, which are the reſult of ſtrict morality, and the *merely uſeful duties*, that

that ariſe from conveniency, accuſtomed manners and opinions, &c.

VII. Man being a creature who owes his exiſtence to God, who is dependent on him, and is deſtined by his Creator to live in ſociety, the law of nature teaches him likewiſe, to what degree he is obliged to obey, not only the *light of reaſon*, but alſo the *divine law* (ſeeing that he cannot avoid being perſuaded, that it has in fact proceeded from God), and the *civil laws*, which are dictated by a lawful ſovereign. All the abſolute duties of mankind take their ſource, therefore, either from the light of reaſon, from revelation, or from the civil laws; and the ſcience of the law of nature traces their limits.

VIII. It is by the ſtudy of this law itſelf, which has been ſo clearly and ſo ſolidly explained by Grotius and Puffendorff, and, above all, by the illuſtrious Wolff, that man learns the particulars of each of theſe abſolute duties toward the Supreme Being, toward himſelf, and toward other men; not only in that ſtate in which he enjoys the greateſt natural liberty of which he is ſuſceptible, but alſo in the ſtate of ſociety with his fellow beings; that ſtate which is ſo natural to him. And ſeeing that as long as he breathes upon this earth, he is ſurrounded by a multitude of other beings, animate and inanimate, which the Creator has there placed, and maintains for the ſupport of the general ſyſtem, according to the deſigns of his infinite wiſdom, it is evident that man has alſo duties, either abſolute or imperfect, to obſerve towards all theſe other creatures; duties that the law of nature points out to him, and the neceſſary obligation of which it fully proves.

IX. The explication of the general ſyſtem of the law of nature has produced two large volumes, in quarto, from the pen of M. Puffendorff, and from that of M. Wolff, eight volumes of the ſame form. The firſt of theſe celebrated authors has given a very ſuccinct extract of his work under the title of

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Duties of a man and Citizen, which nevertheleſs makes a book of near 500 pages in duodecimo. So vaſt is this ſingle ſcience! It will not be expected, that we ſhould extend this chapter beyond its natural proportion, in order to give here the detail of all the duties that reſult from the law of nature. We ſhall content ourſelves with having pointed out the ſource from whence they ariſe, the objects to which they relate, and the degrees of obligation that they impoſe. The reſt is to be learned by the ſtudy of the law of nature itſelf. As to what relates to the rights, privileges, and duties of men formed into nations or political ſtates, and that are derived from the law of nature, they conſtitute the *law of nations*, of which we ſhall trace the outlines, and explain the principles, in the following chapter.

CHAP. XLVI.

The Law of Nations.

1. EVERY one talks of the *law of nations*, but few conceive a juſt idea of it. Some ſuppoſe it to be the mere law of nature; others imagine that it is a written code; others again believe that there are conventions and treaties that the different nations of the earth have made among themſelves: but all theſe opinions are equally erroneous. M. Vattel, enriched with all that Grotius, Puffendorff, Burlamacqui, Wolff, and other philoſophers, had already wrote on the law of nations, is the author who appears to us to have treated this ſubject in the beſt and moſt ſyſtematic manner, and whoſe excellent work may be ſtudied to great advantage.

II. According to him, and to truth, *the law of nations is a ſeparate ſcience, and conſiſts in a juſt and rational application of the law of nature* (and we may add alſo, of certain ancient cuſtoms univerſally received) *to the affairs and the conduct of nations or ſovereigns.* The law of nations, therefore, ſuppoſes a law of nature, ſocieties, ſtates, nations, and ſovereigns, and alſo a communication between theſe nations and their ſovereigns. *Love*, which is the principle of all things, produces ſelf-love, and ſelf-love produces intereſt Nations or ſtates ought to be conſidered as moral individuals, and therefore have an intereſt: this intereſt, natural and particular, is their preſervation and encreaſe; and theſe cannot be obtained but from a reciprocal obſervance of the law of nature, by all the nations who compoſe the human race, whether it be to facilitate their mutual communication, or not to give another nation the right of repriſal, and the liberty of violating, with regard to us, that natural equity which we have violated with regard to them; which would be repugnant to our true intereſt. The maxims and precepts of the law of nature, which are applicable to nations, are compriſed under the general title of the law of nations, which is therefore a natural and neceſſary law, and that ſtate, which violates its precepts, tranſgreſſes *the natural, neceſſary and univerſal law of nations.*

III. There is, moreover, a law of nations which is called *arbitrary*; and is a kind of *cuſtomary* law of nations, conſiſting of tacit conventions between civilized ſtates, relative to cuſtoms that time has eſtabliſhed, which are founded in the natural law, and which they obſerve toward each other for their common intereſt. This law of nations has been held ſacred among the moſt ancient ſtates. The Romans themſelves, thoſe notorious violators, and ſophiſtical interpreters of the law of nations, where their own intereſt was concerned, acknowledged, however, that there was ſuch a law. Their *fecial law* was no other than a law of nations that related

related to public treaties, and particularly to war. The *feciales*, or heralds, were the interpreters, guardians, and in a manner the priests of the public faith: and, unhappily, they frequently made those oracles speak according to the inclinations of their sovereigns.

IV. As we have treated, in the preceding chapter, of the study of the law of nature, it is proper to show here how, and to what degree, the precepts of that law are applicable to civil societies, to nations or states, and their sovereigns; and what are the arbitrary maxims and rules that nations have established among each other, by a tacit and unanimous consent.

V. The science of the law of nations teaches us, therefore, the knowledge of the nature of civil societies, of sovereign nations or states independent of others; of the natural prerogatives of sovereignty, and of the rights of the body over its members; the form of government; the states united by unequal alliances, or by treaties of protection; states tributary and feudatory; states forming a confederate republic; and states that have passed under the dominion of another, &c. It next passes to the examen of the general principles of the duties of a nation toward itself; of the constitution of the state; of the duties and the rights of a nation in that respect; of the sovereign, his rights and obligations; of states elective, successive, or hereditary; and of those which are called patrimonial, &c.

VI. After having properly unfolded and well explained these important subjects, it remains to examine what are the principal objects of a good government; but as we have already treated amply on these matters in the chapter on the policy of states, we must refer our reader to that part, only constantly reminding him of what we cannot sufficiently repeat, 1. That politics teach only what is *useful* to a state, but the law of nations teaches what is *just* between one state and another: 2. That we

are of opinion, that whatever is unjuſt cannot be truly uſeful, and only impoſes on mankind by a momentary or ſpecious advantage Now, as the law of nations eſtabliſhes the rights, the obligations, and the duties of one people toward another, theſe rights and duties naturally extend to all thoſe objects which a good government ought to propoſe to itſelf, as the public ſecurity, commerce, public roads, rivers, the right of tolls, both by land and water, the monies and exchanges, the objects of religion, public juſtice, the police, and the glory of a nation likewiſe; all objects to which nations have rights and duties to obſerve one toward the other.

VII. The whole body of a nation, or a part of that body, or even a ſimple individual, may likewiſe have particular relations to other ſtates, from whence reſult mutual rights and duties. It is here, that the law of nations conſiders the caſe of protection that is ſought by a whole nation, or by ſome of its members, or even by an individual; and the voluntary ſubmiſſion to a foreign prince: in what manner a body of people may ſeparate themſelves from a ſtate of which they are members; or renounce their obedience to a ſovereign when he no longer affords them protection: the eſtabliſhment of a nation, a colony, or of an individual, in a country either inhabited or uninhabited: the rights that reſult from the connexion to a country: emigrations; the right of naturalization; that of habitation, &c. To theſe matters the ſcience of the law of nations joins the examination of public properties, common and particular, and of the manner of acquiring them; of the principal domain, of the alienation of public eſtates or effects, or of part of the ſtate; of waters, rivers, and lakes, and of the right of alluvion; of the ſea, its ſhores, bays and ports; of the right of tolls; and of ſhip-wrecks; of the juriſdiction of its coaſts and borders; and of many other objects

jects which either naturally appertain or relate to these matters.

VIII. The law of nations furnishes, moreover, rules for the common duties of one nation toward another; for the offices of humanity to be observed between them; for the necessary security of different religions; for the mutual commerce of nations; for the treaties of commerce; for agents and consuls; for the rights of security in general; for the rights that result from the sovereignty and independence of nations; for the observance of justice between nations; for the concern that one nation may have in the actions of the subjects of another; for the matter of domain among nations; for the jurisdiction and the violation of territory that result from it; for the general and particular conduct that a nation ought to observe with regard to strangers; for the rights that remain to all nations after the introduction of property and inheritance; and for those rights of which men cannot be deprived; for the manner in which a nation ought to use its right of territory, and at the same time, to perform its duties to other nations, with regard to innocent utilities, as the inoffensive passage of men and merchandise; for *usucaption* and prescription among nations, &c.

IX. It is also from the law of nations, that are deduced the solid principles of treaties of alliance, and other public negotiations; the validity or nullity, the continuance, obligation, and violation, the dissolution and renewal of treaties; the qualities which they ought to possess who have the right of making or dissolving them; and what relates to all other public conventions; those which are made by inferior powers; the agreement called in Latin *sponsio*; and the agreements between the sovereign and his subjects; the important object of the faith of treaties; securities given for the performance of treaties; the comprehensive subject of the interpretation of treaties; the collision or opposition of laws and treaties; the manner of de-

termining the differences between nations; what relates to articles of agreement, mediation, arbitration, conference, congreſs, the law of retaliation, the retortion of rights, repriſals, &c.

X. After conſidering the objects which relate to the reciprocal rights of different ſtates during the time of peace, the law of nations lays down the rules that they are bound to obſerve with regard to each other during the time of war, in order to prevent that plague, and diſgrace of human nature, from becoming more baneful to mankind than is abſolutely neceſſary. It treats, therefore, of war in general, and of its ſeveral kinds; of the right of making war; of that which is the ſupport of a war; of the legal or unjuſt levy of forces; of their commanders or the ſubaltern powers in a war, and of hireling ſoldiers; of arms that are prohibited, as poiſoned weapons, balls, or other inſtruments of war; of the juſt cauſes of a war; of the declaration and form of going to war; of the enemy, and ſuch matters as relate to the enemy; of the allies of an enemy; of the aſſociations in war; of auxiliaries and ſubſidies; of neutralities and the paſſage of troops through a neutral country; of what is right and allowable to do in a juſt war againſt the perſon and the property of an enemy, and of ſuch things as are to be exempt from all injury; of pillage, burning, devaſtation, ſpoil, contribution, protection, &c. of faith among enemies; of ſtratagems and the ſubtilties of war, and of ſpies; of the ſovereign who makes an unjuſt war, and of the right that reſults from it; of acquiſitions made by war, and principally by conqueſts; of the right of poſtliminy, by virtue of which, perſons and things taken by the enemy are reſtored to their primitive ſtate, when they come under the dominion of the nation to which they belong; of the right of individuals in a war, as privateers, volunteers, &c. of the different conventions that are made during the courſe of a war; of convoys or eſcorts, and of paſſports; of the ranſom of priſoners of war;

of

of civil wars; of the re-eſtabliſhment of peace; of the obligation of cultivating peace; of the treaties of peace, of an amneſty, &c. of the executing of a treaty of peace; of the obſervance and rupture of a treaty of peace; of the rights of an ambaſſador or envoy, and of the reception of public miniſters, and of their ſeveral ranks; of the repreſentative character, and of the privileges of public miniſters; of the judge of an ambaſſador in civil matters, and of the houſe, the family and attendance of an ambaſſador.

XI. This rough draught ſhows the objects that appertain to the natural, univerſal and neceſſary law of nations, and for which it furniſhes rules drawn from the law of nature. But as there are ſtill ſome articles for which it is impoſſible for the law of nature to furniſh rules, theſe matters belong to the *voluntary law of nations*. Thus, for example, the law of nature can make no definitive determination concerning *rank* in general; concerning the *nobility* and their prerogatives; or the regard that is to be paid to each *ſtate* in ſociety; concerning *titles*, *dignities*, and *marks of honour*; and thoſe of *ambaſſadors* and *public miniſters* in particular; the *honours* that are aſſigned to theſe, and the *conveniencies* that we ſhould endeavour to procure them; their *privileges* and *immunities*; and that *repreſentative character* which is allowed in a certain degree to every claſs of miniſters; concerning the ſecurity which is granted to *trumpets* and *heralds* of arms, and the reſpect that is to be ſhowed them; concerning the reſpect that nations mutually pay to their *flag*, by ſea; the manner of *ſtriking the flag*, and manner of ſaluting it, whether by ſea, or by ports and fortreſſes; concerning the *degree of humanity* with which we ought to treat priſoners of war; the *reſpect* and *civility* with which officers who are priſoners are to be treated, and the facility with which we ought to grant them *releaſes* on parole; on the exchange of priſoners; and a hundred other like matters,

which cannot be determined by the precepts of the law of nature applied to theſe ſituations, but which relate to the cuſtomary and arbitrary law of nations; that is to ſay, which relate to cuſtoms received from time immemorial among civilized nations, and often, likewiſe, to general conventions.

XII. After having thus treated on all the doctrines that are comprehended under this part of philoſophy, which is calld moral, and which have any connexion with it, we might here alſo mention the *ſtatiſtic*, ſeeing that it makes a part of politics; but as this ſcience, which teaches the knowledge of the arrangement of all the political ſtates which compoſe at this day the whole human race, or rather that part of the human race which inhabits Europe and its colonies, we ſhall refer this enquiry to the ſciences of the memory, which are explained in the third part of this work.

CHAP.

CHAP. XLVII.

METAPHYSICS.

I. IT was by accident that the title of *Metaphyſics* was given to *that part of philoſophy which conſiders the nature of immaterial beings and ſpirts*. Ariſtotle, after treating on phyſics, begins his next book, in which he pretends to elevate the mind above all corporeal objects, in order that it may be enapt in the contemplation of God, of angels, and of things ſpiritual; and may be able to judge of the principles of ſciences by abſtraction, by conſidering them as detached from all material objects: he begins, I ſay, this book with the Greek words μετα τα φυσικα (*meta phyſicicam, poſt phyſicam*, that is, *after phyſics.*) His diſciples, and all philoſophers after them, have formed, of theſe two, one word; and by combing the prepoſition *meta* with the ſubſtantive *phyſica*, they have compoſed the word *metaphyſics*, by which they intend that ſcience of which we have juſt given the definition: although there are ſome authors who pretend, that by the propoſition *meta* is here meant *beyond* or *above*, which is not only contrary to the Greek idiom, but to common ſenſe, and conveys an idea that is oſtentatiouſly ridiculous.

II. If we ſuffer ourſelves to be dictated by the pride of the human mind, and by the raſh aſſertions of the greateſt part of philoſophers as well ancient as modern, and believe that metaphyſics is a ſcience which treats all its ſubjects in a demonſtrative manner, which conſtantly premiſes inconteſtable axioms, and, proceeding upon evident principles, draws undeniable conſequences, we ſhall find ourſelves far wide of the truth. In the matters on which this ſcience treats, we may ſay with Mon-

tagne, *that the truth lies at the bottom of the well*, and no mortal, no human mind, has yet been able to draw it out; and we may add, that the weakneſs of the human underſtanding is ſuch, with regard to thoſe objects which are not diſcernable by the ſenſes, and conſequently do not directly relate to the judgment, that metaphyſics may be compared to a romance, where every thing has the appearance of probability, and at the ſame time nothing is true. The ſource frequently appears to be clear, true, indubitable, while all that ſeems naturally to flow from it is manifeſtly falſe. He who comes the neareſt to the truth, who conjectures with the greateſt appearance of probability, and who gives the cleareſt explication of his ideas, is the beſt metaphyſician. This opinion will appear to many as a kind of blaſphemy, for which reaſon we think we ſhould at leaſt ſupport it by the authority of one of the greateſt geniuſes of the age: as we are in many reſpects of his opinion, we ſhall make uſe of his own words, and the rather as it is difficult for any one to expreſs himſelf ſo well on this ſubject, or indeed on any other. They are as follow:

III. "The divine Plato, maſter of the divine "Ariſtotle, and the divine Socrates, maſter of the "divine Plato, ſay, that the ſoul is corpo eal and "eternal. It was the demon of Socrates without "doubt that taught him the nature of it. There are "people indeed who ſay, that the man who boaſts "of having a familiar ſpirit is certainly either a "fool or a knave; but ſuch ſort of people are too "nice. With regard to the fathers of the church, "many of thoſe of the firſt ages have believed "the ſoul to be human; the angels and God cor-"poreal. But the world is continually improving. "After theſe came thouſands of ſcholaſtics, as the "irrefragable doctor (Hales) the ſubtile doctor "(Scot) the angelic doctor (St. Thomas) the ſera-"phic doctor (St. Bonaventura) the cherubic doctor, "&c. who were all very ſure that they underſtood "the nature of the ſoul perfectly well, but who

"have

" have ſpoke of it, however, in ſuch a manner as if " they were not willing that any body elſe ſhould " know any thing of the matter. Deſcartes came " into the world, not to expoſe the errors of anti- " quity, but to ſubſtitute his own, and ſeduced by " that ſyſtematic ſpirit which deludes the greateſt of " men, imagined that he had demonſtrated that the " ſoul was the ſame thing as thought; as matter, " according to him, is the ſame thing as extenſi- " on.—Father Mallebranche, in his ſublime illuſi- " ons, admits of no innate ideas, but does not " doubt but that we ſee all things in God, and that " God, to uſe the expreſſion, is our ſoul. After " ſo many reaſoners had wrote the romance of the " ſoul, a wiſe man came, who modeſtly wrote its " hiſtory. Mr. Locke has explained to mankind " the human underſtanding as a ſkilful anato- " miſt explains the ſeveral parts of the human bo- " dy. He has guided his ſteps every where by the " to ch of phyſics: he ſometimes dares to ſpeak " in an affirmative manner, but he dares alſo to " doubt."———

" IV. Mr. Locke, ſays this author further on, " has modeſtly ventured to advance the following " words: *perhaps we ſhall never be able to know, if* " *a being, purely material thinks or not.* This ſaga- " cious reflection appeared, to more than one di- " vine, a ſcandalous declaration, which implied " that the ſoul was material Some devout Engliſh- " men, after their manner, ſounded the alarm. " The bigots are in ſociety what poltrons are in an " army; they conceive and communicate panic " terrors. They exclaimed that Mr. Locke would " overthrow all religion; religion, however, was " not at all concerned in the affair; it was a queſ- " tion purely philoſophic, and altogether inde- " pendent of faith and of revelation: it was only " neceſſary to examine coolly, if there was any " contradiction in ſaying, that matter might think, " and that God could communicate thought to mat- " ter. But it is too much the cuſtom of theologi-

" ans

" ans preſently to cry out that God is irreverently " treated, if he be not conſidered according to " their notions; for they too much reſemble thoſe " wretched poets, who ſaid, that Deſpreaux ſpoke " evil of the king, becauſe he laughed at their ver- " ſes. If I dared to ſpeak after Mr. Locke, on ſo " delicate a ſubject, I would ſay: Men have diſ- " puted for a long time concerning the nature and " immortality of the ſoul; with regard to its im- " mortality, it is impoſſible to demonſtrate it, ſee- " ing that the nature of the ſoul is ſtill a matter of " diſpute, and certainly we ſhould be thoroughly " acquainted with the nature of any created being " in order to decide if it be immortal or not. Hu- " man reaſon is ſo little able of itſelf to demon- " ſtrate the immortality of the ſoul, that religion " has been obliged to reveal it to us." Add to this argument of our author this reflexion: Is it more impoſſible to God to annihilate a created ſpirit than a created body? " The common intereſt " of all mankind requires that we ſhould believe " the ſoul to be immortal, and faith enjoins it to " us; nothing more is neceſſary. It is not the " ſame with regard to its nature. It is of little " import to religion of what ſubſtance the ſoul be, " provided it be virtuous. It is a watch given us " to regulate, but the maker has not told us of " what the ſpring of this watch is compoſed."

" V. *I am a body, and I think.* I know nothing " more. If I were only to conſult my own weak " lights, ſhould I attribute that to an unknown " cauſe, which I could ſo eaſily attribute to the " only ſecondary cauſe, of which I know a little? " Here all the philoſophers of the ſchools interrupt " me with their arguments, and ſay, There is no- " thing in body but extenſion and ſolidity, and it " can have no properties but thoſe of motion and " figure; but motion, figure, extenſion and ſoli- " dity cannot produce a thought; therefore the ſoul " cannot be material." Add alſo here this queſti- on: Do we know, can we diſtinguiſh what is a thought?

thought? May it not altogether as well proceed from a certain diſpoſition, a certain arrangement of matter, as from ſpirit? "All theſe profound reaſonings, continues this author, which are ſo often repeated, may be reduced ſimply to this: I know very little about matter; I diſcern imperfectly ſome of its properties; but I am entirely ignorant whether or not the faculty of thinking may be joined with theſe properties; therefore, becauſe I know nothing of the matter, I aſſert poſitively, that matter cannot think. This is preciſely the manner of reaſoning in the ſchools. Mr. Locke ſays to theſe gentlemen very plainly: Confeſs at leaſt that you are as ignorant as I am; neither your imagination nor mine can conceive how a body has ideas; and can you better conceive how a ſubſtance of any kind whatever has ideas. You cannot comprehend either body or ſpirit, and how can you pretend to be certain of any thing? Of what ſignification is it to you, whether the ſoul be one of thoſe incomprehenſible beings which are called matter, or one of thoſe incomprehenſible beings which are called ſpirits? What! cannot God, the creator of all things, either eternize or annihilate your ſoul at his pleaſure, whatever may be its ſubſtance?"

VI. We inſert theſe reflections merely to ſhow the great difficulty that the ſtudy of metaphyſics ſtill has, and it is probable ever will have, to ſurmount. The efforts of Leibnitz, Locke, Wolff, and of all modern philoſophers, have been ſucceſsful in this purſuit, it is allowed; but the reſult has not been infallible, and it is far from being the caſe to this day, that any mortal, who has ever lived upon the earth, has given us a demonſtration on this matter that did not admit of ſome objection, or has proved any one metaphyſical truth that bears the marks of perſpicuity and full conviction, and that does not admit of any rational doubt. In the beſt metaphyſical treatiſes that have been produced, there are not perhaps three definitions that are ſtrictly

juſt.

juſt. The imperfection of the diſcerning faculty in the human mind, the imperfect extent of its views, which cannot embrace, at the ſame time, all the properties of beings, and the imperfection of all languages in the world, are the reaſons that we never can expect to ſee perfect definitions: and without theſe, how trifling is it to attempt to reaſon!

VII. However, we muſt not ſuppoſe that ſo many great men of all ages have founded their labours altogether on the ſand, or have merely amuſed themſelves by throwing ſtones into the water that circles might ſucceed. No: they have employed all the ſagacity of the human underſtanding, all the moſt ſubtile arguments to diſcover what was ſuſceptible of diſcovery; and theſe operations have produced the ſcience that we call metaphyſics, and of which we ſhall now make the analyſis, by briefly explaining the particular parts or doctrines of which it is compoſed. We have thought it our duty, as an impartial author, ſo far to ſet down the *pro* and *con*, for the information of the reader; but we are very far from intending to diſcourage thoſe who are deſirous of compleating the full courſe of philoſophy: on the contrary, we think that we cannot ſufficiently exhort them to perſevere; that they ought never to deſpair of the human underſtanding; that no man knows how far its powers may extend; and that great diſcoveries in metaphyſics, as in every thing elſe, are frequently made when they are leaſt expected.

VIII. Metaphyſics then is divided, according to the objects that it conſiders, into ſix principal parts, which a e called, 1. Ontology: 2. Coſmology: 3. Anthropology: 4. Pſychology: 5. Pneumatology, and 6 Theodicy or metaphyſical theology. We ſhall examine, in a few words, what is the end of each of theſe particular doctrines, and what are the means that it makes uſe of to attain that end, leaving the reſt to the ſtudy of metaphyſics itſelf.

IX. The

IX. The doctrine, that is named *Ontology*, is that part of metaphyſics which inveſtigates, and explains, the nature and general eſſence of all beings, as well as the qualities and attributes that eſſentially appertain to them, and which we ought to aſſign them by abſtraction, as conſidering them *a priori*. Hence it appears, that this doctrine ſhould proceed in its operations from the moſt ſimple ideas; ſuch as do not admit of any other qualities of which they may be compounded. Theſe ſimple ideas are, for example, thoſe of being, of eſſence, of ſubſtance, of mode, of exiſtence as well with regard to time as place, of a neceſſary cauſe, of unity, the idea of negation, the difference between a being that is ſimple or compound, neceſſary or accidental, finite or infinite: the idea of eſſential and abſtract properties, as of the greatneſs, perfection, and goodneſs of beings, and ſo of the reſt. The buſineſs therefore of ontology, is to make us acquainted with every kind of being in its eſſence and abſtract qualities, and ſuch as are diſtinct from all other beings. This knowledge being once eſtabliſhed on ſimple principles and eternal truths, juſt conſequences may from thence be drawn, and thoſe things proved, after which metaphyſics inquires, and which is its buſineſs to prove.

X. It is eaſy to conceive, that even a clear knowledge of beings, and their eſſential properties, would be ſtill defective and uſeleſs to man, if he did not know how to determine and fix his ideas by proper denominations, and conſequently to communicate his perceptions to thoſe whom he would inſtruct, or againſt whom he is obliged to diſpute, as they would not have the ſame perceptions that he has. It is, by the way, perhaps one of the greateſt advantages that we have over other animals, to be able ſo to determine our ideas by ſigns or denominations, either of writing or ſpeech, as to refer each particular perception to its general idea, and each general perception to its particular idea. To render therefore our ideas intelligible to others,

others, we muſt have determinate words or denominations for each being, and the qualities of each being; and ontology teaches us thoſe terms which are ſo neceſſary to fix our ideas, and to give them the requiſite perſpicuity and preciſion, that we may not diſpute about words when we endeavour to extend the ſphere of our knowledge, or when we debate concerning the eſſence of an object, or endeavour to make it more evident. It is for this reaſon that ontology was formerly regarded as a barren ſcience, that conſiſted of technical terms only; as a mere terminology; whereas the beſt modern philoſophers make it a more ſubſtantial ſcience, by annexing determinate ideas to thoſe words, and the examination of thoſe objects themſelves that theſe terms imply. But the misfortune is, to ſpeak the truth, that in this ontologic determination there is ſtill much uncertainty and ſophiſtry. For, in the firſt place, we yet know of no metaphyſics where all the definitions are juſt; and in the ſecond place, the words that are emoloyed in theſe definitions have always ſomething equivocal in their meaning, and have conſequently themſelves need of definitions; and in this manner we may recede to infinity, unleſs we recur to the firſt impreſſions that the ſimple words have made in our minds, and the primitive ideas which they there excite. The words, man, love, coach, &c. ſay more, and make a ſtronger impreſſion than all the definitions we can give of them; by ontologic explications they are almoſt always covered with a dark cloud.

XI. Metaphyſics, after having, in as ſolid a manner as poſſible, explained and eſtabliſhed the principles above mentioned, continues its inquiries to the ſecond part, that is called *coſmology*, and examines into the eſſence of the world, and all that it contains; its eternal laws; of the nature of matter; of motion; of the nature of tangible bodies, of their attributes and eſſential qualities, and of all that can be known by abſtraction; and ſometimes alſo, by adding the lights that man acquires concerning

cerning them by the experience of his ſenſes. It is alſo in coſmology, that we examine the Leibnitzian ſyſtem, that is, whether God, in creating the world, muſt neceſſarily have created the beſt world, and if this world be ſo in effect. And in this manner they purſue the argument from conſequence to conſequence to its laſt reſort. All philoſophers, however do not go equally deep. Each mind has its doſe of penetration. Due care ſhould be likewiſe taken, that ſubtilty, in this chain of reaſoning, carried beyond the general bounds of the human mind, do not prejudice either the perſpicuity or the truth of ideas; ſeeing that error here too nearly approaches the truth, and that every idea, which cannot be rendered intelligible, is in effect equal to a falſe idea.

XII. *Anthropology*, or the knowledge of man, forms the third branch of metaphyſics. It is ſubdivided into two parts. The firſt, which conſiſts in the knowledge of the exterior parts of the human frame, does not belong to this ſcience: anatomy and phyſiology teach that, as we have ſhowed in treating on thoſe ſciences. The buſineſs here is only a metaphyſical examination of man, his exiſtence, his eſſence, his eſſential qualities and neceſſary attributes, all conſidered *a priori*: and this examen leads at the ſame time to

XIII. *Pſychology*, which is the fourth part of metaphyſics, and conſiſts in the knowledge of the ſoul in general, and of the ſoul of man in particular, concerning which, the moſt profound, the moſt ſubtle and abſtract reſearches have been made, that the human reaſon is capable of producing; and concerning the ſubſtance of which, maugre all theſe efforts, it is yet extremely difficult to aſſert any thing that is rational, and ſtill leſs, any thing that is poſitive and well ſupported.

XIV. The fifth part of metaphyſics is called *Pneumatology*. It is not a very long time ſince this term has been invented, and that metaphyſicians have made of it a diſtinct doctrine. By this they mean

mean the knowledge of all ſpirits, angels, &c. It is eaſy to conceive that infinite art is neceſſary to give an account of what we do not abſolutely know any thing and of which, by the nature of the ſubject itſelf, we never can know any thing. There have been reſpectable perſons who have aſſerted, that there were ſpirits, angels, devils, &c. We muſt believe them; it is an object of faith. But the metaphyſician preſently offers to ſhow us, *what is the idea of a ſpirit*; *the effective exiſtence of a ſpirit*; *what are its general qualities and properties*; *that there are rational ſpirits, and that theſe rational ſpirits have qualities that are founded in the moral qualities of God:* for this is, in ſo many words, what is taught us by pneumatology or pneumatics. Vain efforts! ridiculous ſtudy! There are reſpectable people, who aſſure us that there are ſpectres, ghoſts, apparitions, &c. We have in Germany the tradition of one of them, named Hackelberg, who was a very keen ſportſman, and at the ſame time a very wicked fellow. He aſked of God, they ſay, inſtead of eternal happineſs, the joy of hunting in the woods after his death, till the end of the world. His prayer was granted as his puniſhment; and he is condemned to hunt inceſſantly in the night, in ſome foreſt: and there are thouſands of viſionaries who affirm, that they have heard him, his hounds, and his horn, and have been in the midſt of them, but have never been able, however, to ſee either him or any of his followers. Now, there would be no more extravagance in making metaphyſical reſearches into the nature and eſſential qualities of this huntſman, his dogs, and his muſic, than there is treating ſeriouſly and metaphyſically on the nature of ſpirits, angels, and demons. At leaſt it is certain, that as regular and concluſive demonſtrations may be made of all theſe chimeras, as thoſe which we find concerning ſpirits in the treatiſes on pneumatology. For it ſhould be here well remembered, that the exiſtence of ſpirits and angels is not of an abſolute neceſſity, that ariſes from their own nature,

nature, or from the nature of other beings, or the general ſyſtem of the univerſe; whereas the exiſtence of a Supreme Being is of an abſolute neceſſity, and what might be demonſtrated *a priori*, although we had never heard it mentioned.

XV. *Metaphyſical theology*, which M. Leibnitz and ſome others call *theodicy*, is the ſixth and laſt doctrine of metaphyſics. It teaches us the knowledge of the exiſtence of God; to make the moſt rational ſuppoſitions concerning his divine eſſence, and to form a juſt idea of his qualities and perfections, and to demonſtrate them by abſtract reaſoning *a priori*. Theodicy differs from natural theology (of which we have already treated in the 40th chapter among the parts of morality) in as much as this laſt borrows, in fact, from theodicy, proofs and demonſtrations to confirm the exiſtence of a Supreme Being; but after having ſolidly eſtabliſhed that great truth, by extending its conſequences, natural theology teaches us what are the relations and connexions that ſubſiſt between that Supreme Being and man, and what are the moral duties that reſult from that connexion. As pneumatology is a ſcience highly inſidious and chimerical, ſo is metaphyſical theology ſuſceptible of ſound argument and demonſtration to the great comfort of mankind, the whole of whoſe happineſs is founded on the certainty of this ſcience. If the effects and operations of ſpirits in the univerſe were as evident as the effects and operations of the Deity, and their neceſſary exiſtence as capable of being proved *a priori*, pneumatology would be a doctrine of equal certainty with theodocy; but as neither one nor the other can be proved, with regard to ſpirits in general, whilſt God manifeſts himſelf in every part of nature, we have only to deſcend from the moſt ſimple and abſtract ideas, to thoſe that are the moſt compound, and from thence to reaſcend by a chain of reaſonings from the creature up to the author of the creature and of all nature: we ſhall find, that the reſult of all theſe operations of the mind will conſtantly

conſtantly be the neceſſity of the exiſtence of a God; and we may at all times determine, though very imperfectly, from the weakneſs of our diſcernment, what that Supreme Being muſt be, by poſitively determining what he cannot be. Every thing that can concur to furniſh new proofs on this ſubject, or to elucidate and eſtabliſh thoſe which are already known, is therefore of ineſtimable value to mankind; and though this were the only object of metaphyſics, it would highly merit the attention of thoſe of the moſt refined and moſt exalted genius. I may be excuſed from adding any thing further, but to confeſs, that I know nothing more of this matter; and I ſuppoſe, that men of the greateſt learning and ſagacity are not in this reſpect much wiſer, but that thoſe of little minds imagine themſelves much more ſkilful in metaphyſical matters.

CHAP XLVIII.

PHYSICS,

OR,

NATURAL PHILOSOPHY.

I. BY the word Phyſics, in its moſt extenſive ſenſe, we underſtand *the ſcience of the operations of nature, and of its productions.* This definition is alone ſufficient to inform us, what are the particular parts of phyſics, and what are the means it employs to attain its ends. Thus *natural hiſtory*, or *zoology*, *botany*, and *mineralogy*, deſcribe thoſe bodies that nature produces, as far as they are diſcernible by our ſenſes. So *chymiſtry* and *experimental philoſophy* diſcover to us, at leaſt in part, the compoſition of bodies, and the various alterations of which thoſe compoſitions are ſuſceptible. So

General

general and ſpeculative phyſics draws from all theſe preliminary obſervations, from all theſe matters of fact, juſt conſequences relative to the univerſal laws of nature, to the properties, forces, action, and eſſential qualities of bodies We have already treated of botany and chymiſtry, it therefore only remains to give here an idea of zoology, mineralogy, and experimental philoſophy. This analyſis will naturally lead us to an explanation of the laws of nature, by which all theſe effects are produced; and therefore we ſhall unite, in this chapter, the ſciences which are preparatory to general and ſpeculative phyſics, and which at the ſame time furniſh the proofs of all its principles and hypotheſes, with this ſcience itſelf. And very happy ſhall we think ourſelves, if we are able in ſome degree to elucidate theſe matters.

II. The object of phyſics being the examination of the whole frame of nature, ſo far as it is viſible and palpable to man, it is eaſy to conceive that it muſt form the moſt extenſive branch of human knowledge, ſeeing that the operations of nature are varied almoſt to infinity. To reduce this immenſe ſubject into ſome order, philoſophers have begun by dividing all the productions of this globe into three claſſes, which they call *kingdoms*, and diſtinguiſh into the *vegetable*, the *mineral*, and *animal kingdom*. Botany, mineralogy, and natural hiſtory properly ſo called, teach therefore all that is come to the knowledge of man in each of theſe kingdoms. Chymiſtry reſolves all bodies, and conſequently ſhews the manner in which they are compounded. Philoſophers have likewiſe diſcovered that the univerſe is compoſed of elements, of which there are four, *earth*, *water*, *fire*, and *air*. Experimental philoſophy, by numberleſs eſſays and obſervations, explains the manner in which theſe elements operate upon each other, and the effects that they produce. The knowledge of thoſe heavenly bodies, whoſe various courſes fill the vaſt expanſe of the firmament, and of their properties and courſes,

courſes, either real or apparent, is compriſed in the ſcience of *aſtronomy:* but as all the knowledge that we acquire in this reſpect is obtained by the aid of calculation, aſtronomy has been ranked with the mathematical ſciences, and does not directly appertain, in the general ſyſtem of erudition, to phyſics; although the examen of the principles, which produce the motion and all the effects of the heavenly bodies, properly belongs to this ſcience.

III. We cannot wonder that a ſcience ſo vaſt, ſo complicate and profound, has required ſo many ages, ſo many thouſands of years, to attain that degree of perfection at which we now ſee it; and we muſt not imagine, that, to this day, it has acquired all that perfection of which it is ſuſceptible. The moſt able philoſopher finds a freſh obſtacle at every ſtep he takes in this career. Happy would that man be, who could comprehend the principles of all things! But alas! the Creator has not judged it proper to give to our ſenſes the neceſſary perfection; or rather, man ſtill wants one or ſeveral ſenſes to ſearch into nature, and to diſcover its ſecret ſprings. By virtue of experiments and obſervations, philoſophers have been enabled to gueſs at ſome of its principles; and we ſhall fulfil our intention, if we are ſo happy as to be able to give our readers a general idea of the knowledge they have attained in this reſpect, and the means they have employed to attain it; and by doing this, we ſhall trace the outlines of natural philoſophy.

IV. All the ancient oriental nations, including the Hebrews and the Egyptians, were mere novices in phyſics; and their ignorance ſeems to prove the infancy of the world. The Greeks, men of a ſubtile and inquiſitive genius, went further, and ſometimes gueſſed right enough, though very rarely. Empedocles, for example, who is ranked by ſome among the Pythagoreans, profeſſed the ſyſtem of the four elements in nature, and added thereto two principles, which he called *principium amicitiæ* and *principium contentionis*. The firſt, according to him,

him, is the cauſe of the coalition of beings, and the ſecond, that of their receſſion or ſeparation. Was not this derived from the ſame origin as the celebrated ſyſtem of the attraction and repulſion of bodies? Whatever was the cauſe, the progreſs of phyſics has ever been ſlow, and we are aſtoniſhed when we ſee ancient writers of the greateſt genius, as Plutarch and an hundred others, make uſe of ſuch wretched reaſoning when they mention thoſe ſubjects that relate to phyſics.

V. Among the Romans, Lucretius and Cicero have indeed wrote on theſe ſubjects; but they have only related the opinions of the Greeks, which were not worthy of great regard. Seneca and Pliny went further; and we are obliged to the latter for the uſeful obſervations which he has made on many parts of this ſcience, although he is frequently too credulous. Pliny, moreover, does not belong to the claſs of dogmatic authors on phyſics, as he gives only an hiſtorical account of theſe matters.

VI. The firſt ages of Chriſtianity were the ages of darkneſs for all the ſciences and the arts. It was not till very late, that Bacon baron of Verulam, and ſome of his cotemporaries, produced the firſt ſparks of thoſe fair light, that have ſince blazed forth by the happy labours of their ſucceſſors. Gaſſendus, Bernier, Roger, Albert le Grand, Deſcartes, Rudiger, Newton Leibnitz, Wolff, and a multitude of other celebrated philoſophers, have diffuſed theſe lights over philoſophy; and all theſe great men have at laſt eſtabliſhed that method of treating it which is alone able to diſcover the truth. This method is perfectly ſimple They begin with eſtabliſhing facts by means of experiments and obſervations, and draw from thence conſequences relative to their cauſes and principles. For, as ſoon as experience or the ſenſes have diſcovered what paſſes in nature, the mind endeavours to diſcover what cannot be diſtinguiſhed by the ſenſes; that is to ſay, what may be the cauſe or the end of each phenomenon or operation in nature; and by this

mean

mean it conſtantly combines the accuracy of obſervation with the ſagacity and rigour of argument. Let us here follow the footſteps of this method.

VII. The ſcience, which teaches what are the productions of nature in the earth, in plants and animals, is called natural hiſtory, in its moſt extenſive ſenſe. We have already ſeen, in the chapter on botany, all which that ſcience teaches concerning the productions of nature in the kingdom of plants, and the method that it takes to make us know and remember their immenſe number. In order therefore to avoid repetitions, we ſhall proceed to *mineralogy*, and *natural hiſtory properly ſo called*; of which the firſt examines the productions of the earth, and the ſecond deſcribes thoſe living beings which we call animals.

VIII. Mineralogy begins with an hiſtorical deſcription of the different *earths* of which this globe is compoſed, and the terreſtrial bodies which are contained in its bowels, as *ſtones*, *metals*, *petrifactions*, *the particular ſpecies of earths*, *coagulated juices and fluids*, *&c.* It deſcribes their principal properties, and ranges them in claſſes, genders, and ſpecies. As moſt of thoſe bodies, which belong to the mineral kingdom, have been at all times uſed to promote either the convenience or luxury of mankind, we find, in the moſt diſtant ages, traces of this ſcience; and Pliny, the naturaliſt, has tranſmitted to poſterity all that was known concerning them by the ancient Romans: but it was reſerved for the preſent age to reduce mineralogy into a regular ſyſtem; to range all the terreſtrial bodies in claſſes, genders and ſpecies; to aſſign the proper characteriſtic of each claſs; to ſearch every part of the known world, ſtrictly to ſcrutinize the earth in every region, and to communicate to mankind the knowledge of all terreſtrial bodies, and of every mineral that is worthy to be known. It muſt be confeſſed, that the Germans and the Swedes have acquired great excellence in theſe matters; and it is impoſſible to treat on this ſubject without repeating the

the celebrated name of Linnaeus, the profeſſor at Upſal.

IX. That ſagacious inveſtigator of nature ſuppoſes, that ſand and argil are the only primordial earths that have produced, and which ſtill produce, by aid of the elements, all bodies that are included in the mineral kingdom; that the generation of ſimple and compound ſtones is not performed but by an exterior junction of parts; and that there is here no generation in the egg, nor circulation of fluids in the veſſels that appertain to them, as in the other kingdoms of nature. This ſyſtem appears, indeed, to be founded on all the obſervations, and all the conceptions, that we can have by means of the ſenſes, but at the ſame time repugnant enough to reaſon and analogy: ſeeing that it is not at all probable, that the author of nature ſhould have ſubjected the generation of mineral bodies to laws different from thoſe which he has given to other beings; and that this duplicity in the method of generation would not be, in ſome degree, an imperfection in nature. According to this ſyſtem of M. Linnaeus, we cannot even call the propagation of ſtones and metals a generation; for it would be nothing more than a ſimple modification of matter, a mere alteration of figure. When we ſpeak moreover of an ovarious generation, we are not to think of an egg like that of a fowl. Who can ſay, what it is that forms the egg or matrix which produces ſtones? Who knows, by what imperceptible canals the juices and liquids flow that may concur to their generation? And do we not ſee likewiſe, that many ſtones and metals have their matrices, their genital encloſures? Is it even impoſſible, that we ſhould diſcover in minerals the traces of the ſexes? Or is it impoſſible, that each mineral ſhould be of both ſexes? If the ſyſtem of the mere junction of the parts be a true one, how ſhall we account for the formation of the oyſter, and the ſhell in which the ſnail is encloſed, which is produced, grows, and diſappears with the inſect, of which it makes

a part, and to which it ſerves as a covering? It plainly appears, that this ſhell is of the ſame ſubſtance with foſſils, as well as all other ſhells of the ſea and rivers. How ſhall we account likewiſe for the formation of the ſhell of the egg of poultry and all other fowls, which is at firſt ſoft and afterwards becomes hard in the body of the bird? Are not the cabinets of the curious amply furniſhed with corals and litophites, productions of nature that partake partly of the ſtone and partly of the plant, and whoſe branches, as well as their uniformity of genders, claſſes and ſpecies, ſeem to prove ſufficiently that they have been produced by no other generation than that of plants? We are very far, however, from deſiring to confute the opinion of ſo great a man. It is merely a doubt, that we venture to propoſe with as much diffidence as deſire to inſtruct; and we ſhall here only add one plain remark, which is, that the ſyſtem of Linnæus ſeems to favour the chimeras of the adepts, while the contrary ſyſtem of generation expoſes their vanity by theory, as well as by an experience that has been confirmed from the creation of the world.

X. Be this matter, however, as it may, the ſyſtem or arrangement, which he makes of all the productions of the mineral kingdom, is as ingenious as it is clear and ſolid. He divides all theſe productions into three claſſes, to wit, 1. *Flints*, or *ſimple ſtones*, all the parts of which are perfectly homogene; 2. *Minerals*, or *compoſite ſtones*, which are marked with heterogene and foreign particles; and, 3. *Foſſils*, or *united ſtones*, which are compoſed of a mixture of divers particles of flints and minerals. Under the firſt *claſs*, he ranges the incombuſtible ſtones, lime ſtones, and ſuch as may be vitrified; under the ſecond, ſalts, ſulphur, and mercury. When thoſe ſtones, whoſe ſubſtance is mercurial, are afterwards formed and melted by fire, they are called *metals*. In the third claſs, he ranges the earths, the concreſcences of divers particular earths and petrifactions.

XI. Under

XI. Under theſe three genders or orders of each claſs, he makes the enumeration of the different ſpecies that appertain to each gender: and in this manner he refers as ſpecies,

1. Of the firſt claſs and firſt gender of STONES.
   The *Incombuſtibles*; to wit, the aſbeſtos, amianthus, ollaris, talc, mica or ſhining particles.
2. Of the firſt claſs and ſecond gender.
   Lime ſtones; which are the ſlate, ſpatum, and marble.
3. Of the firſt claſs and third gender,
   Vitrifiable ſtones; as the cos or whetſtone, the flint and the quartzum.
4. Of the ſecond claſs and firſt gender of MINERALS,
   Salts; to wit, ſaltpetre, common ſalt, alum, and vitriol.
5. Of the ſecond claſs and ſecond gender,
   Sulphurs; as roſin, bitumen, marcaſites, and arſenic.
6. Of the ſecond claſs and third gender,
   Mercuries; as quickſilver, antimony, zinc, biſmuth, pewter, lead, iron, copper, ſilver, and gold.
7. Of the third claſs and firſt gender of FOSSILS,
   Earths; to wit, ſand, argil, clay, gravel, oker and marl.
8. Of the third claſs and ſecond gender,
   Concretes; which are the pumice ſtone, the porous ſtone for filtering, the gravel ſtone, the grind ſtone, the eagle ſtone, tartar, and the animal calculus.
9. Of the third claſs and the third gender,
   Petrifactions; to wit, ſtones figured with plants, worms, inſects, and terreſtrial and acquatic animals.

XII. After pointing out the evident characteriſtics of each claſs, order and gender, M. Linnæus next deſcribes the ſeveral particular ſpecies of productions which belong to the ſeveral genders; and in this manner he repreſents, as in a map, the

earth, and all that is contained in its boſom, and that in a method ſo perſpicuous and ſo pleaſing that we cannot ſufficiently admire his ſagacity and laborious application. Mineralogy, in the laſt place, examines into the ſubſtance of thoſe ſeveral bodies, their properties, and uſes in common life; but it treats this matter in an hiſtorical manner only. Optics, but more eſpecially chymiſtry, here lend their aid, not only to diſcover the compoſition of bodies, but to make a proper application of them for the benefit of mankind. Stones are thoſe hard bodies which reſiſt the fire and the hammer, but metals and minerals are bodies ductile and malleable, on which chymiſtry is particularly exerciſed; and this part of chymiſtry, which is ſo intimately connected with mineralogy, is called *metallurgy*. Theſe two ſciences, thus united, do not proceed much further; they communicate their diſcoveries to ſpeculative philoſophy, and furniſh it with matter of reflection.

XIII. *Zoology*, or *natural hiſtory*, properly ſo called, treats on living bodies in the ſame manner as mineralogy does on thoſe that are terreſtrial and inanimate, and botany on plants; that is, in the terms of the art, it embraces the whole animal kingdom. By living bodies, we underſtand every body that is animated, that is endowed with ſenſation, that moves, is nouriſhed, grows, and perpetuates its ſpecies. This ſcience has not yet been carried to ſo great a degree of perfection as thoſe of the other two kingdoms of nature, although it is not leſs important. There are not wanting large volumes filled with deſigns relative to this matter, and we ought to acknowledge our obligation to their laborious authors; but theſe books can be conſidered merely as dictionaries. A good ſyſtem in which ſhall be properly ranged the ſeveral claſſes, genders, and ſpecies, of all that breathes upon the earth, in the air, or in the waters, is what we have ſtill to deſire; eſpecially if in this ſyſtem the characters were ſo diſtinctly and conciſely marked, that the memory might eaſily retain them.

them. We muſt content ourſelves, therefore, with giving here a very ſhort analyſis of the beſt ſyſtem that has come to our knowledge.

XIV. According to this ſyſtem, all the beings which belong to the animal kingdom are divided into *ſix claſſes*, which are, 1. Quadrupeds: 2. Birds, 3. Amphibious animals: 4. Fiſh: 5. Inſects: and, 6. Worms. Under each *claſs* are ranged the ſeveral *genders* that thereto belong, and under each *gender* its different *ſpecies*. The diviſion of the claſſes is founded on the particular nature of each animal, and the element which it inhabits: that of the genders and ſpecies on the difference of the teeth of the quadrupeds; on the variations in the bill and the claws, with regard to birds; of the figures, the ſcales, and fins of fiſh; of the wings and antennæ of inſects; and ſo of the reſt.

XV. The genders which belong to the firſt claſs, that of QUADRUPEDS, are of five orders:

1. The *Anthropomorphiſts*; as man, the ape, the *bradypus* or idler.
2. *Savage animals*; the bear, lion, tiger, cat, weaſel, *didelphis*, otter, *odobænus*, ſea-dog, hyena, dog, badger, mole, porcupine, and bat.
3. *Rats*; the hedge-hog, ſquirrel, caſtor, mouſe, and hare.
4. *Horſes*; the horſe, hippopotamus, elephant, and hog.
5. *Ruminating animals*; the camel, ſtag, goat, ſheep, and ox.

The genders which appertain to the ſecond *claſs*, that of BIRDS, are of ſeven orders,

1. The *birds of prey*; as the parrot, owl, and hawk.
2. The *peckers*; the bird of Paradiſe, magpye, raven, cuckoo, woodpecker, and lapwing.
3. The *long bills*; the crane, ſtork, and heron.
4. The *gooſe kind*; as the bittern, pelican, ſwan, duck, diver, aquatic raven, the tailleſs diver and the coot.
5. The *pointed bills*; which are the woodcock, rock pigeon, lapwing, ſnipe and moorhen.
6. *Gallinæ*; as the oſtrich, caſual, buſtard, peacock,

cock, turkey, common fowl, partridge, and pheaſant.

7. *Tringilla*; the pigeon, thruſh, ſtarling, lark, wagtail, nightingale, ſwallow, *bouvreuil*, and chaffinch.

The genders which belong to the third claſs that of the AMPHIBIOUS, are,

1. The order of *ſerpents*; as the tortoiſe, frog, lizard, and the ſerpent; with all the ſpecies that depend on each gender, as for example, the crocodile, which is of the gender of lizards; and ſo of the reſt;

The genders which belong to the fourth claſs, that of FISH, are,

1. The order of *flat tails*; as the ſea calf, the catodon, ſea-unicorn, whale and dolphin.
2. Thoſe of *cartilaginous finned*; as the thornback, ſhark, ſturgeon, and lamprey.
3. The *bony finned*; the ſea-frog, the cyclopterus, which comprehends the plaice, barbel, turbot, &c. the oſtracion or ſhell-fiſh, the baliſt or ſea-goat.
4. The *pointed finned*; the garteroſteus or bony belly, the zeus or ſea-hog, ſea-cock, &c. the cottus or ſea ſcorpion, dab, trachin, perch, ſparus, ſea-hog, mullet, mackerel, ſword-fiſh, ſaw-fiſh, and gudgeon.
5. The *ſoft finned*; the murene (a ſort of lamprey) the true lamprey, the pur or ſea lark, the code, the burt, the ſandy eel, the whale's guide, the remora, pike, ſalmon, ſmelt, *coregonus*, herring, carp, gudgeon, *ſymgnathus*, trout, and all the different ſpecies which depend on theſe by their form.

The genders which belong to the fifth claſs, that of INSECTS, are,

1. *Thoſe whoſe wings are covered with a ſcale*; as the wood louſe, May bug, beetle earwig, the mordelle or water bug, the weavel or mite, the one horned May bug, the great horn beetle, the chanterelle or decoyer, the cochineal, vinefretter, piſmire, beetle, graſshopper, cantharides, or Spaniſh fly, the glow worm, the chevalet.
2. *Thoſe whoſe wings are not covered*; as the butterfly,

fly, dragon fly, the ephemere or day fly, the hemerobius or waterfly, the ſcorpion fly, bee, waſp, and common fly.

3. *Thoſe whoſe wings are half covered*; as the cricket, ant, bug, the land ſcorpion, and water ſcorpion.

4. Thoſe who have *no wings*; as the louſe, flea, water. vinefretter, mite, ſpider, crab, lobſter, wood louſe, the ſcolopendra.

The genders that belong to the ſixth claſs, that of WORMS, are,

1. The order of *reptiles*; as the thread worm, the riband worm, the lumbricus or earth worm, thoſe of the inteſtines, the blood ſucker, and the ſhelleſs ſnail.

2. The *ſhellworms*; of which are the ſnail, the venus ſhell, the ſea ear, the little diſh, the ſea-tooth, and the ſea-lamp.

3. Of the order of *planted worms*, are the ſea porcupine, the marine fox or ſea ſtar, the cuttle fiſh or ſound, the ſea microcoſm, and all the different ſpecies that may be referred by their characters to theſe genders.

XVI. It is eaſy to imagine, that according to the plan of this work, we can only juſt mention all thoſe claſſes, genders, orders and ſpecies, on which are founded the knowledge of the animal and mineral kingdoms; that we can give only a general idea of the ſcience, and of the manner in which it is treated. The ſtudy of the larger works of this kind, as the *Spectacle de la nature* of the abbe Pluche, the works of Meſſrs. Reaumer, Trembley, Buffon, and numberleſs others, which are daily making their appearance in moſt of the civilized countries of Europe; the inſpection of the cabinets of the curious, and ſtill more, an attentive and repeated examen of the works of nature herſelf, are the only proper means of increaſing this ſort of knowledge. It is certain, that a diligent obſervation of the ſubjects of *mineralogy*, and *zoology*, united with the ſtudy of botany (of which we have already treated) affords every poſſible information relative to natural hiſtory in general, that is, we thereby acquire

the hiſtorical knowledge of all the beings of this globe, that nature produces. *Experimental philoſophy*, aided by *chymiſtry* (of which we have alſo made the analyſis in the 34th chap.) and ſeveral parts of the mathematics, diſcloſe the compoſition of theſe beings, and the ſprings by which nature operates in their production, and in making them produce, in their turn, the mutual effects of the elements, &c. Aſtronomy, of which we ſhall ſpeak in the chapter on mathematics, explains the nature of the celeſtial bodies and their courſes; and all theſe various ſciences united, conduct us at laſt, as far as the human mind is able to proceed, to the determination of the general laws of nature in the order of the univerſe; from whence reſult *univerſal* and *ſpeculative phyſics*. Let us proceed therefore, after ſaying a few words on generation in general, to the examen of experimental philoſophy.

XVII. As there cannot be in nature two or more principles for producing one and the ſame effect, it does not appear to be poſſible, that there can be more than one for the production of all beings, that is to ſay, but one method only of generation. The abſurd doctrine of *equivocal generation* is fairly exploded; that a mixture of ſaw-duſt and urine is capable of producing inſects, and a thouſand ſuch puerilities, are now treated with the contempt they deſerve. It is now demonſtrated to the eye, and to the touch, that there are two ſexes in plants, and that they produce like beings by that generation which is common to all nature. Perhaps in another century they will be able to demonſtrate the ſame truth in the mineral kingdom: but the principle of this common generation, and the manner in which nature operates in the interior parts of animal and vegetable bodies, to make them produce their offſpring, are ſtill great arcana to the moſt ſkilful naturaliſts. Ariſtotle has wrote five books, full of pitiful conceits, concerning generation. Modern philoſophers have applied very aſſiduouſly to this ſubject, and have made conſiderable diſcoveries

veries which appear to approach nearer to the truth. We find the hiſtory of them in the *Philoſophical Venus* of the late M. Maupertuis. That author there adopts an hypotheſis, which before his death he acknowledged to be not the true one: other able inquirers have ſince propoſed more plauſible hypotheſes, and ſeem to come much nearer to the true ſyſtem. There is yet ſomething wanting, however, to give their opinions the convincing argument of clear demonſtration; and the firſt principle of generation will, moſt probably, for ever remain among the number of thoſe matters that are out of the reach of human knowledge. We have more than one reaſon for not enlarging here on this ſubject, and ſhall therefore paſs to the analyſis of experimental philoſophy.

XVIII. It is not very long ſince this ſcience has been known to the world, or, to ſpeak more properly, ſince it was firſt reduced into a ſyſtem. Natural philoſophy has been, for theſe fifty centuries, nothing more than a confuſed heap of ſyſtems laid one upon another, and very frequently the one claſhing againſt the other. Each philoſopher thought, that he had an equal right to erect a ſimilar edifice to his own memory. They adopted barbarous terms and expreſſions, that conveyed confuſed ideas only. For explications, they gave certain unintelligible or unmeaning words, which had been introduced by the authority of ſome celebrated name; but from which a man of underſtanding could not receive the leaſt information. At length, the true phyſics were brought to light; it was drawn from the obſcurity of the ſchools, where it had grown old under the authority of Ariſtotle; and ſcarce any thing was ſuffered to remain of it, but the name. This reformation proceeded principally from the manner of ſtudying it. Inſtead of gueſſing at it, they began to inveſtigate it by experiments; and whereas they formerly confined themſelves to ſpeculations, and vague reſearches concerning phenomena and their cauſes, that were always merely conjectural, they now gave ocular demonſtrations of cauſes and ef-

fects, by means of experiments; and this is what they call experimental philoſophy or phyſics.

XIX. The principles of this philoſophy are as follow. All the material ſubſtances, whoſe aſſemblage compoſes the univerſe, are called *natural bodies*. What we perceive in theſe ſubſtances that is uniform and invariable, and of which we do not know the cauſe, is called their *properties*. Phyſics ſets out with this, as from a fixed point, in order to explain the different phenomena that are perceived on the earth, in the water, the air, or fire, and in all that theſe elements contain. For though it does not pretend to know all that bodies have in common among themſelves, or all that is peculiar to each one of them, yet it knows a certain number of their properties, which it regards as *primary*, till it diſcovers a precedent cauſe of which they may be the effect *; and which properties are general, and in a manner inſeparable from all matter, as, for example, *extenſion*. There are likewiſe properties of an inferior order, which do not appertain to all bodies but as they are in certain ſtates, or under certain circumſtances: theſe in general are nothing more than combinations of the primary properties, and form a ſecond claſs, as for example, *fluidity*. Laſtly theſe properties of the firſt and ſecond order combine more and more, and become common to a ſtill ſmaller number of bodies: and here they are no longer extended to all bodies, as the firſt, nor are peculiar to certain ſtates, as the ſecond, but are confined to genders, ſpecies, or even individuals. Such are ſeveral properties of the air, fire, light, metals, the magnet, &c. Theſe three orders of properties are the ſubject of the inquiries of experimental philoſophy, which proves by experiments thoſe that are already known, and frequently diſcovers others that were unknown.

XX. It is neceſſary here to deſcend to ſome particulars. The firſt property of bodies, which preſents itſelf to our ideas and our ſenſes, is their *extenſion*,

* See Nollet, Lecons de phyſique experimentale.

tenſion, which is a limited bulk of any form whatever, of which we can conceive parts that may be diſtinguiſhed from each other. This material extenſion has three dimenſions, which are length, breadth, and depth. Every body, whoſe extenſion is large enough to be ſeen or felt, may be divided into ſeveral parts, and which muſt conſequently decreaſe in proportion as the diviſion is increaſed: from hence comes *the infinite diviſibility of matter*, at leaſt in idea; for in the ſmalleſt particle we can ſtill imagine of two halves; though the fact has never been proved by experiment, for nature does not at all times conform to imagination, ſeeing that the minuteſt particles, and their decompoſition, eſcape our obſervations even in the moſt accurate experiments. However, we ſhould never have believed, without having made the trial, to what degree experimental philoſophy is capable of dividing bodies, and of reducing them to particles that are almoſt indiviſible.

XXI. The order, or arrangement, which the ſurfaces of bodies take among themſelves, is called their *figures*. As theſe ſurfaces cannot be confounded, but are always diſtinguiſhable by their ſituations, it is evident that figure is a common and neceſſary property of all bodies. The experiments, by which this truth is demonſtrated by the aid of the microſcope, are equally curious and convincing: and from hence it is alſo proved, that there are no two bodies that are abſolutely ſimilar. The *ſolidity* of a body is nothing more than the quantity of matter that is contained within its bulk: this property is eſſential to all bodies, and the moſt certain ſign of their exiſtence. *Reſiſtance* is a neceſſary conſequence of the foregoing property; and every phyſical reſiſtance proves a real ſolidity in a greater or leſs degree. Fluids being the only bodies in which ſolidity is in any manner neceſſary to be proved, it has been there demonſtrated by numberleſs experiments. The *poroſity* of bodies is, on the contrary, nothing but that ſpace which is found between their

ſolid

ſolid parts. This *ſpace* has its degrees. When a dry ſponge is plunged into water, a quantity of air comes out of it, in proportion to the water that penetrates it: and when moiſt bodies are dried, they become more light in proportion as they loſe by evaporation what their poroſity had admitted. This is the firſt ſort of ſpace or vacuum. Light, or the matter of fire that we ſee paſs through bodies impenetrable to air and water, ſuppoſes pores more delicate, and a ſpace more ſubtile. It is almoſt indubitable, that after theſe firſt kinds of vacuum, and which indeed are improperly ſo called, as they are filled with other matter, there are others ſtill ſmaller, and which are ſo in a literal ſenſe. That freedom, which is requiſite to motion, ſeems to prove it: for though we may ſay, matter being diviſible almoſt *ad infinitum*, that a body or ſubſtance more ſolid may move in another ſubſtance that is more ſubtile, and that will give way to its motion, we muſt, nevertheleſs, have recourſe to a laſt reſort, and admit of an ultimate vacuum, which will give room ſufficient to the *leaſt* corpuſcle, that its part *A* may take the place of its part *B*, without the leaſt reſiſtance: beſides, it is not to be imagined, that nature, in fact, admits of that infinite diviſibility which our imagination can conceive, and that every thing which is poſſible in idea is at all times practicable. All that exiſts is poſſible, but all that is poſſible does not however exiſt. The air pump is of very great uſe in proving theſe three ſorts of vacuums. By *denſity*, is underſtood the proportion between the extenſion and ſolidity of a body: one body therefore is more denſe than another, when under the ſame degree of extenſion, it contains more ſolid matter: and this quality ariſes from *condenſation* and *compreſſion*. *Elaſticity* is nothing more than that effort by which certain bodies when compreſſed, endeavour to reſtore themſelves to their former ſtate; and this property ſuppoſes them compreſſible. As all theſe natural properties of bodies are of great utility in explaining the principles of phyſics,

phyſics, and in applying them to all the arts, experimental philoſophy proves their reality by a thouſand examples.

XXII. We diſcover ſtill other properties in bodies; ſuch as *mobility*, which we muſt not here confound with *motion*. This mobility ariſes from certain diſpoſitions which are not in an equal degree, in all bodies; from whence it comes that ſome are more eaſily moved than others: and this proceeds from the reſiſtance to motion which is perceived in all bodies, having regard merely to their maſſes; and this reſiſtance is called *vis inertiæ*, or *inert force*. A body is ſaid to be in motion, when it is actually moving from one place to another; or, whenever a body changes its ſituation with regard to the objects that ſurround it, either nearly or remotely, it is ſaid to be in motion. There are three principal matters to be conſidered in a moving body; its *direction*, its *velocity*, and the *quantity* of its motion: and here phyſics explains the *force* or *moving power*; it likewiſe diſtinguiſhes between ſimple and compound motion. *Simple motion* is that which ariſes from only one force, or which tends to only one point. It deſcribes the laws, and explains the *reſiſtance of mediums*; the *reſiſtance of friction*; the difficulties of a *perpetual motion*; the *alteration of direction*, occaſioned by the oppoſition of a fluid matter; *reflected* or *reverberated motion*; the communication of motion by the ſhock of bodies, &c. *Compound motion* is that of a body impelled to move by ſeveral cauſes or powers which act according to their different directions. Phyſics here likewiſe inveſtigates the laws; and is particularly applied to the explaining, under this head, what are called the *central forces*, which produce a motion that is either circular or in a curve line, and which inceſſantly urge the moving body either to approach or recede from the center. To diſtinguiſh theſe from each other, the former is called the *centripetal force*, and the latter the *centrifugal force*.

XXIII. By

XXIII By *gravity* or *ponderoſity*, is to be underſtood that force which occaſions bodies to paſs from a higher to a lower place, when nothing oppoſes their courſe, or when the obſtacles are not ſufficient to ſtop them. Speculative philoſophy inveſtigates its cauſe, and perhaps in vain. Experimental philoſophy contents itſelf with deſcribing the phenomena, and teaching *the laws of gravity*, which are thoroughly eſtabliſhed by a thouſand reiterated experiments. In order properly to underſtand this ſubject, we muſt take care not to confound the term *gravity* with that of *weight*. By the former, we underſtand that force which urges bodies to deſcend through a certain ſpace in a given time. By the latter, is meant the quantity of a heavy body that is contained under the ſame bulk. The phenomena are explained by the experiments themſelves, and by inferences deduced from them.

XXIV. *Hydroſtatics* is a ſcience whoſe object is the gravity and equilibrium of fluids in particular. Though the gravity of theſe bodies is the ſame with that of others, and is ſubject to the ſame laws, yet their ſtate of fluidity gives riſe to particular phenomena, which it is of conſequence to know. But as hydroſtatics cannot be ſucceſsfully treated on without the aſſiſtance of calculation, it has been ranged among the mathematical ſciences; and we ſhall follow this arrangement, in order to avoid all confuſion, and not to treat of the ſame ſubject twice. We ſhall likewiſe endeavour to conſider it at the ſame time, as well from the relation it has to phyſics, as to thoſe mathematical calculations on which its principles and demonſtrations are founded.

XXV. We ſay the ſame with regard to *mechanics*, which is the art of employing, by the aid of machines, the motion of bodies, in conformity to its properties and laws, as well with regard to ſolids as fluids, either more commodiouſly or more advantageouſly. Of theſe matters we ſhall give a full explanation in the chapter on mathematics, as well

well as of the laws of nature on which they are founded.

XXVI. After it has made the moſt accurate experiments, and the moſt judicious obſervations, on all theſe different objects, and the properties of bodies in particular, experimental philoſophy paſſes to the examination of the air, the water, fire, the wind, colours, &c. The *air* is a fluid with which we are ſurrounded from the inſtant of our birth, and without which we cannot exiſt. It is by the properties and the influences of the air, that nature gives encreaſe and perfection to all that it produces for our wants and conveniencies; it is the ſpirit of navigation: ſound, voice, ſpeech itſelf, are nothing more than percuſſions of the air: this globe that we inhabit is completely ſurrounded by air; and this kind of coverture which is commonly called the *atmoſphere* has ſuch remarkable functions, that it evidently appears to concur to the mechaniſm of nature. E perimental phyſics, therefore, conſiders the air, 1. Of itſelf, independent of its bulk, and the figure of its whole body; it examines its eſſential properties; as its gravity, denſity, ſpring &c. The air-pump is here of indiſpenſable uſe; and by this pump phyſics examines in what manner ſpace, or a vacuum, is made. It likewiſe ſhows the neceſſity of air to the preſervation of animal life; the effect it has on ſound, fire, and gunpowder *in vacuo*; and a hundred other experiments of various degrees of curioſity. 2. It conſiders the air as the terreſtrial atmoſphere, ſometimes as a fluid at reſt, and ſometimes as in motion. And by theſe means it accounts for the variation of the mercury in the barometer, and why it ſinks in proportion as the height of the atmoſphere diminiſhes; as alſo for the figure, the extent, and weight of the atmoſphere: it ſhews the method of determining the height of mountains, the nature of ſound in general, of its propagation and of ſonorous bodies.

XXVII. It is here alſo, that experimental philoſophy conſiders the nature of the *wind*, which

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is nothing more than agitated air, a portion of the atmoſphere that moves like a current with a certain velocity and determinate direction. This fluid, with regard to its direction, takes different names according to the different points of the horizon from whence it comes, as eaſt, weſt, north, and ſouth. Winds are likewiſe diſtinguiſhed into three ſorts, one of which is called *general* or *conſtant*, as the *trade winds*, which continually blow between the tropics: another is the *periodical*, which always begin and end within a certain time of the year, or a certain hour of the day, as the *monſoons*, the *land-breezes* and *ſea-breezes*, which riſe conſtantly in the morning and evening; and laſtly, ſuch as are *variable*, as well with regard to their direction as their velocity and duration. The true firſt cauſe of the wind is yet to be determined. The conjectures of the moſt able philoſophers, concerning this cauſe, would be all plauſible enough, if they were not ſo contradictory to each other. We know, in general, that all the winds ariſe from a defect in the equilibrium of the air; but of the cauſe of this defect, we are as yet ignorant: experimental philoſophy, which avoids as much as poſſible the having recourſe to ſyſtems and hypotheſis, contents itſelf with meaſuring the velocity of the wind. M. Mariotte computes the velocity of the moſt impetuous wind, to be at the rate of thirty-two feet in a ſecond, and Mr. Derham makes it ſixty-ſix feet in the ſame time. The firſt, doubtleſs, meant the wind of the greateſt velocity that had then come to his knowledge.

XXVIII. The force of the wind, like that of other bodies, depends on its velocity and maſs; that is, the quantity of air which is in motion: ſo the ſame wind has more or leſs force on any obſtacle that oppoſes it, in proportion as that obſtacle preſents a greater or a leſs ſurface: for which reaſon it is that they ſpread the ſails of a veſſel more or leſs, and place the wings of a windmill in different directions. The machines, by which the winds

winds are meaſured, are called *anemometers*. They ſhew the direction, the velocity and the duration of winds. It is by the agitations of the wind, that the air is purified, that the ſeeds of trees and herbs are conveyed to the foreſts and fields; that veſſels are drove from one pole to the other; that our mills turn upon their axes, &c. and art, by imitating nature, ſometimes procures us artificial winds, by which we refreſh our bodies, invigorate our fires, purify our corn, &c.

XXIX. *Water* is an univerſal agent, which nature employs in all her productions. It may be conſidered as in three ſtates, 1. as a *liquid*; 2. as a *vapour*; and 3. as *ice*. Theſe three different ſtates do not in any manner change its eſſence, but make it proper to anſwer different ends. The natural ſtate of water would be that of a ſolid body, as fat, wax, and all thoſe other bodies which are only fluid when heated to a certain degree: for water would be conſtantly ice, if the particles of fire, by which it is penetrated in the temperate climates, did not render it fluid, by producing a reciprocal motion among its parts; and, in a country where the cold is continually ſtrong enough to maintain the congelation, the aſſiſtance of art is neceſſary to make it fluid in the ſame manner as we do lead, &c. Water, when not in ice, is a fluid that is inſipid, tranſparent, without colour, and without ſmell, and that eaſily adheres to the ſurface of ſome bodies, that penetrates many, and extinguiſhes fire. Experimental philoſophy inveſtigates the origin of fountains; the cauſe of the ſaltneſs of the ſea; the means of purifying water; what is its weight, and what are its effects when heated, &c. It likewiſe examines this fluid in the ſtate of vapour; and, finds that a drop of water, when in vapour, occupies a ſpace 14000 times greater than it did before. It explains the *æolipile* and its effects; fire engines; and the force of vapours that give motion to immenſe machines in mines and elſewhere, &c.

&c and laſtly, it conſiders water in the ſtate of ice. When water does not contain a ſufficient quantity of that matter which we call *fire*, its particles, approaching each other too cloſely, loſe their reciprocal motion, adhere to each other, and form a ſolid tranſparent body which they name *ice*; and this paſſage from the one ſtate to the other is called *congelation*. Ice conſequently is more cold than water; and its coldneſs encreaſes if it continue to loſe that matter, already too rare or too little active, to render it fluid. Experimental phyſic endeavours to inveſtigate the cauſes of the congelation of water, and why ice is lighter than water; from whence it derives that expanſive force by which it breaks the containing veſſel; the difference there is between the congelation of rivers and that of ſtanding waters; why ice becomes more cold by the mixture of ſalts; and many other ſimilar phenomena.

XXX. What is vulgarly called *fire*, is properly nothing more than an ignited body; but the ſecret cauſe of this ignition is yet unknown to the moſt learned philoſopher. As objects when at a great diſtance are not perceptible to our ſenſes, ſo when we examine them too nearly, we diſcern them but confuſedly. We are yet ignorant whether fire be a homogene, unalterable matter, deſigned, by its preſence, or by its action, to produce heat, inflammation, and diſſolution, in bodies; or if its eſſence conſiſts in motion only, or in the fermentation of thoſe particles which we call *inflammable*, and which enter as principles, in greater or leſs quantities, in the compoſition of mixed bodies. The moſt learned enquirers into nature incline to the former opinion; and have recourſe to a matter, which they regard as the principle of fire. They ſuppoſe that there is in nature a fluid adapted to this purpoſe, created ſuch from the beginning, and that nothing more is neceſſary, than to put it in action. The numberleſs experiments, which are

are daily made in *electricity*, ſeem to favour this opinion, and to prove that this matter, this fluid, this elementary fire, is diffuſed through all nature, and in all bodies, even ice itſelf. We cannot ſay to what important knowledge this great diſcovery of electricity may lead if we continue our enquiries concerning it. But it may be ſaid, if fire be matter, it is then a body, and therefore ought to have a gravitation towards the center of the earth: now, we ſee that fire has not this property, which is eſſential to bodies or to matter; but on the contrary, it riſes upward, and recedes from the center. But, in the firſt place, it is not clearly determined that fire does not gravitate: many very accurate experiments ſeem to prove that it does. Secondly, we have not ſufficient authority to ſay that gravitation is an eſſential attribute of matter; that there can be no material ſubſtance but what muſt gravitate. What do we know, for example, of the properties of thoſe bodies which exiſt out of our globe? Thirdly, fire may be a body, a matter diffuſed over the whole univerſe, which may appertain to all the planets; or may proceed from the ſun, and conſequently ought neceſſarily to have a tendency either toward a center common to all the planets, or elſe toward the ſun in particular; which ſeems to be a very natural cauſe of its receding from the center of the earth. In ſhort, it appears that we may believe, without any inconvenience or abſurdity, that fire and light, conſidered in their firſt principle, are one and the ſame ſubſtance differently modified.

XXXI. Be this matter however as it may, we ſhall content ourſelves, without adopting either ſyſtem, with mentioning here, that experimental philoſophy is employed in making the moſt ingenious and moſt uſeful reſearches concerning the nature of fire, its propagation, and the means by which its power may be excited or augmented; concerning the phoſphorus and its inflammation;

fire

fire excited by the reflection of the ſun's rays from a mirror; and on the effects of fire in general; concerning lightning and its effects; the fuſion of metals; gunpowder and its exploſion; flame, and the aliments of fire; and an infinity of like objects which it explains, or concerning which it makes new diſcoveries, by the aid of experiments.

XXXII. By the word *Light*, we underſtand that agent by which nature affects the eye with that lively, and almoſt conſtantly pleaſing ſenſation, which we call *ſeeing*, and by which we diſcern the ſize, figure, colour and ſituation of objects when at a convenient diſtance. All philoſophers agree, *that the light, which is diffuſed in any place, is a real body*. But what this body is, and by what means it enters that place where it is perceived, is a queſtion about which philoſophers are divided. Deſcartes believed that light was an immenſe fluid, whoſe infinitely ſmall particles filled the whole ſphere of the univerſe. The ſun which occupies the center, the fixed ſtars which are as its limits, and all bodies which become illuminated on the earth and elſewhere, animate this matter, by a motion which does not tranſport it from one place to another, but which puts it in motion by a kind of impulſe. Newton, on the contrary, believes, and ſeems to prove, that light is a real emanation from a luminous body: the ſun, according to him, continually throws out, on every ſide, rays from his own body, which are extended even to the extremities of the world; and theſe rays are compoſed of parts, that, ſucceeding each other, are perpetually renewed in the ſame place, with that velocity which we perceive in the propagation of light: or to expreſs the matter in terms more clear, and ſtill more determinate, according to Newton and reaſon, *light is nothing elſe than fire itſelf*; which burns at a ſmall diſtance, when its particles are groſs, rapid, or united; but which gently enlightens

lightens our ſight when it acts at a diſtance, or its particles are more minute, leſs rapid or not united; as a lighted candle burns the eye when brought very near, but only enlightens it when held at a convenient diſtance. Newton has likewiſe demonſtrated that this matter or fire, emitted and thrown off from the ſun, arrives at the earth in ſeven or eight minutes.

XXXIII. Experimental philoſophy (whether the one or the other of theſe opinions be adopted) is applied in diſcovering or proving, by an infinity of experiments, what is the nature of light, in what manner it is propagated, what is its velocity and progreſſive motion. It alſo inveſtigates and explains the principles of *optics*, properly ſo called, and ſhows the directions which light obſerves in its motions. From thence it proceeds to the examen of the principles of *catoptrics*, and deſcribes the laws and effects of reflected light. It next treats of the principles of *dioptrics*, and explains the laws of refracted light; and laſtly, it teaches, from the principles of natural and artificial viſion, the conſtruction of optical inſtruments, as lenſes, concave mirrors, priſms, teleſcopes, &c. &c. and the uſes to which they are applied.

XXXIV. By reſolving or ſeparating the rays of light, philoſophy has obtained true and clear diſcoveries of the nature of *colours*. Before Newton, no one had imagined that the parts of light could be reſolved, or its rays preciſely ſeparated and diſtinguiſhed from each other by conſtant properties and ſenſible effects: but that great man, rejecting all ſyſtems merely ſpeculative, which he regarded but as ſo many romances, determined to adhere to facts alone, to experiments, carefully made, in his inveſtigation of the cauſes of colours; and we ſhall here give a very ſummary account of his manner of proceeding, of what he diſcovered, and what he from thence concluded. We diſtinguiſh viſible objects, not only by their bulk, figures, diſtances,

diſtances, &c. but alſo by that kind of illumination by which they ſtrike the ſight in a different manner, independent of the quantity of light, and which we in general call *colour*, and whoſe different ſpecies we diſtinguiſh by the names, red, green, yellow, blue, &c.

XXXV. We are naturally led to imagine that colours, and their different degrees, make a part of the bodies that preſent them to our ſight; that white is inherent in ſnow, green in leaves and graſs, and red to a ſtuff dyed with that colour; but this is far from being true If an object, which preſents any colour to our ſight, be not illuminated, it preſents no colour whatſoever. In the night all is black; colours, therefore, depend on light, for without that we could form no idea of them: but they depend alſo on bodies, for of ſeveral objects preſented to the ſame light, ſome appear white, others red, blue, &c. But all theſe matters being ſeparate from our own bodies, we ſhould never acquire any ideas of them, if the light, tranſmitted or reflected by theſe objects, did not make them ſenſible to us, by ſtriking upon the organs of our ſight, and if theſe impreſſions did not revive in us thoſe ideas which we have been uſed to expreſs by certain terms. For theſe reaſons philoſophy conſiders colours from three points of view, 1. As in the light; 2. In bodies, as being coloured; and 3. From the relation they have to our viſible faculties which they particularly effect, and by which we are enabled to diſtinguiſh them.

XXXVI. According to Newton, and truth, every ray of light is an aſſemblage of numberleſs other rays, which are not all of the ſame colour, though in conſequence of their union they appear white to our eyes; but ſome are, 1. *red*; others, 2. *orange*; 3. *yellow*; 4. *green*; 5. *blue*; 6. *indigo*; and 7. *violet*. Theſe ſeven colours are called *primitive*, or homogene. White is an aſſemblage of all the rays of the primordial colours, and black is cauſed by the privation of light. The different combinations

combinations of the ſeven ſorts of rays there are in light, or the ſeven ſimple colours, produce thoſe various mixtures, that diverſity of colours which we behold in the ſeveral parts of the univerſe. Newton diſcovered this property of light by aid of the priſm, in the different *refrangibility* of its rays differently coloured; and the theory which he eſtabliſhed on this admirable diſcovery reſts on two points; 1. That light is compoſed of rays of different degrees of refrangibility; 2. That each ray is of a determinate colour, with which it paints the objects that it illumines. Natural philoſophy proves the truth of theſe two propoſitions by the moſt certain and ingenious experiments, and applies them to the three points of view under which we have repreſented colours in §. 35. The bounds of this work, which we have perhaps already exceeded, prevent us from ſaying more, either on colours in particular, or experimental philoſophy in general. The reſt muſt be learnt by the ſtudy of this ſcience itſelf.

XXXVII. The reſult of ſo great a number of experiments and obſervations, are at laſt referred to *ſpeculative or general phyſics*, of which it remains to give a curſory idea. This ſcience, which for ſome thouſand years has been juſtly called ſpeculative, ſeeing that it has been founded altogether on vain ſpeculations, and ſuppoſitions merely ideal, is at length ſupported by experiments and obſervations that bear the ſtamp of manifeſt demonſtration. It now forms no ſyſtem, admits of no hypotheſes, but ſuch whoſe veracity and certainty have been previouſly demonſtrated. For which purpoſe it calls to its aſſiſtance all the ſubordinate ſciences, and makes uſe of their operations in the inveſtigation and eſtabliſhment of its principles. As mineralogy, botany, zoology, chymiſtry, anatomy, phyſiology, pathology, and almoſt all the other parts of phyſic, philoſophical geography, aerometry, experimental philoſophy, all the particular

ticular ſciences which are compriſed under the general denomination of mathematics; all theſe have relation to general phyſics, and each of them concur, more or leſs, to furniſh materials for its ſublime operations. When, by the aſſiſtance of the labours of theſe, phyſics has eſtabliſhed the veracity of facts, it then applies the moſt ſubtile, abſtract and profound ratiocination, to draw from thence juſt conſequences, and to eſtabliſh general principles, founded on theſe facts, relative to the univerſal laws of nature; to the celeſtial bodies, and the true order of the univerſe; to the elements and their reciprocal action; to meteors; to bodies that are both viſible and tangible; to the reciprocal action of palpable bodies; to the generation of beings in general, and of man in particular; to every production of nature in all the three kingdoms: in a word, it endeavours to account, as far as the weak lights of the human underſtanding are capable of accounting, for all the phenomena of Heaven and Earth.

XXXVIII. As the nature of this abridgment will not permit us to enter into a detail of the multifarious objects that are comprehended under the general title of phyſics, or even to enumerate their various operations, we ſhall content ourſelves with giving one example; and we ſhall make choice of that which appears to be the principle, the cauſe of all the operations of nature. This is the renowned ſyſtem of attraction, diſcovered and propoſed by Sir Iſaac Newton, the greateſt philoſopher that has ever exiſted. Before his time men wrote on philoſophy as they compoſe a romance, where every thing has the appearance of truth, and where nothing is true. He took a different and a new courſe for the diſcovery of the truth. Chymical operations, the laws of gravitation, the power of central forces; in a word, every obſervation, and every experiment poſſible, concurred in aſſiſting him to prove, that bodies have

have a natural tendency toward each other; and this property in bodies he calls *attraction*. This is a principle that admits of evident demonstration. Now, if this power of attraction or gravitation acts on a body, it muſt act on all its parts; for if it be lodged in the whole, it is doubtleſs in the half, quarter, and ſo on *ad infinitum*. Therefore, bodies muſt neceſſarily attract each other in a reciprocal proportion to the quantity of matter they contain; but as all force is diminiſhed by means of diſtance, bodies muſt alſo attract each other in a like reciprocal proportion to their diſtances. As to what concerns repulſion, or that repelling force which is ſuppoſed to be equally an inherent property of all bodies, it does not appear very clearly, that there is any neceſſity for this property in nature, in order to prevent the celeſtial and other bodies from ruſhing againſt and deſtroying each other in conſequence of their mutual attraction. For as the whole univerſe is interſperſed with bodies, and as no one of the celeſtial ſpheres can be conſidered as unconnected, ſeeing it is ſurrounded by others at different diſtances, which are all endowed with an attractive force, all theſe bodies muſt neceſſarily attract each other in a proportion reciprocal to the ſquares of their maſſes and diſtances, and there appears to be no neceſſity of adding another principle, and of ſuppoſing a *repulſive* force diſtinct from the attractive. Be this matter, however, as it may, attraction is now regarded as the grand ſource of all the operations of nature. Sir Iſaac Newton, by applying the moſt ſublime calculations to this principle, has determined the diſtances and dimenſions of all the celeſtial bodies; he has weighed the revolving ſpheres, and has boldly dared to demonſtrate the quantity of matter that is contained in the body of the ſun, and in each of its ſurrounding planets: and laſtly, as a *vacuum* was neceſſary to his ſyſtem, he has ſhown by reaſon, and even by experiment, the impoſſibility of a

plenum, and has reſtored that ſpace which Ariſtotle and Deſcartes had baniſhed from the world. Such have been the happy labours of this great man; and ſo juſtly may we ſay with Pope,

Nature, and Nature's laws, lay hid in night,
God ſaid, Let NEWTON *be, and all was light.*

END OF THE FIRST VOLUME.